

Supplementary material

A critical review of nanohybrids: synthesis, applications and environmental implications

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Table S1. Annual production of articles in nanohybrid literature in the Web of Science, 1998–2012

The last column corresponds to a classification according to the definition offered by the authors

Year	Number of publications in NH literature	NH of env. importance
1998	1	1
1999	3	2
2000	7	7
2001	9	9
2002	17	13
2003	14	12
2004	31	27
2005	36	30
2006	65	60
2007	58	53
2008	84	75
2009	106	88
2010	98	78
2011	147	113
2012	205	184
	881	752

Table S2. Potential applications of nanohybrids

Application	Number of publications
Adsorption studies	8
Antimicrobial/antibacterial applications	8
Biomaterials	20
Catalytic/photocatalytic/electrocatalytic applications	65
Crystallography and polymer crystallisation	31
Delivery carriers, and controlled release of drugs/compounds	75
Dental research	0
Energy/electron transfer, donor/acceptor, solar/fuel cells/ion-Li batteries, and electronic applications	95
Fluorescence/luminescence/photoluminescence, light-energy harvesting	47
Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	39
Membrane research, gas removal, pollutant remediation	3
N/A ^A	129
Optical imaging and applications	47
Physical/electrical/mechanical properties (thermal, resistance, magnetic)	61
Semiconductors/superconductors/conductive materials	32
Sensors/biosensors/electrochemical sensors	65
Synthesis of new nanohybrids/materials	152
Transparent and conductive films	4
Total	881

^AThis category groups publications in which no NH could be identified or classified according to the definition of Environmentally Unique NH presented by the authors. It also includes articles in which the information could not be retrieved, was not available, or was not clear. Note: NH of environmental importance = 752.

Table S3. Classification of publications from 1998 to 2012 using the Web of Science search engine

Criteria: 'nanohybrid' or 'nano-hybrid'. Literature was selected when it originated from scientific articles and referred specifically to the following combination of keywords, special character (*), and search field (Title): 'Title = (nano-hybrid*) OR Title = (nanohybrid*)'

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
1	1998	Superionic and superconducting nanohybrids with heterostructure, $A_gxI_wBi_2Sr_2Ca_n-1Cu_nO_y$ ($0.76 \leq x \leq 1.17$, $n = 1, 2$, and 3)	Choy, JH; Kim, YI; Hwang, SJ	Chemistry	$A_gxI_wBi_2ST_2Ca_n-1Cu_nO_y$ ($n = 1, 2$, and 3)	Semiconductors/superconductor s/conductive materials	MMNH
2	1999	Intercalation route to nano-hybrids: inorganic/organic-high T-c cuprate hybrid materials	Choy, JH; Kwon, SJ; Hwang, SJ; et al.	Chemistry; Materials Science	M-X-Bi ₂ Sr ₂ Ca _m -1Cu _m O _y (M = Hg, Ag, Au; X = Br, I; m = 1-3), R ₂ HgI ₄ -Bi ₂ Sr ₂ Ca _m -1Cu _m O _y (R = organic cation)	Semiconductors/superconductor s/conductive materials	OMCNH
3	1999	Intercalative nanohybrids of nucleoside monophosphates and DNA in layered metal hydroxide	Choy, JH; Kwak, SY; Park, JS; et al.	Chemistry	N/A	N/A	N/A
4	2000	Preparation of organic-inorganic nanohybrids by intercalation reactions	Fujita, K; Tagaya, H; Kadokawa, J	Polymer Science	Isonicotinic acid, Zn(OH) ₂	Synthesis of new nanohybrids/materials	OMCNH
5	2000	Novel synthetic route to superconducting-insulating nanohybrids	Choy, JH; Kwon, SJ; Jang, ES	Crystallography	Polymer, Cuprate, Cu	Semiconductors/superconductor s/conductive materials	OMCNH
6	2000	Synthesis of TiO ₂ -SiO ₂ nano-hybrid and its adsorption of polyelectrolyte	Hua, FJ; Sun, J; Gao, L; et al.	Chemistry	TiO ₂ , SiO ₂	Adsorption studies	MMNH
7	2000	Intercalation route to novel superconducting nano-hybrids	Choy, JH; Lee, W; Jang, ES; et al.	Crystallography	M-X-Bi ₂ Sr ₂ Ca _n -1Cu _n O _y (M = Ng, Ag, Au; X = Br, I; n = 1, 2, and 3), R ₂ HgI ₄ -Bi ₂ Si ₂ Ca _n -1Cu _n O _y (R = organic cation)	Semiconductors/superconductor s/conductive materials	OMCNH
8	2000	Nanohybrids of metal nanoparticles and block copolymers. Control of spatial distribution of the nanoparticles in microdomain space	Okumura, A; Tsutsumi, K; Hashimoto, T	Polymer Science	Pd, poly(2-vinylpyridine)-block-polyisoprene	Synthesis of new nanohybrids/materials	OMCNH
9	2000	HRTEM and micro-Raman studies on superconducting-superionic conducting nanohybrid, $Ag_{1.17}I_{1.54}Bi_2Sr_2CaCu_2O_y$	Choy, JH; Kim, YI; Hwang, SJ; et al.	Chemistry	$Ag_{1.17}I_{1.54}Bi_2Sr_2CaCu_2O_y$	Semiconductors/superconductor s/conductive materials	MMNH
10	2001	Cellular uptake behavior of [γ -P-32] labeled ATP-LDH nanohybrids	Choy, JH; Kwak, SY; Park, JS; et al.	Chemistry; Materials Science	Mg ₄ Al ₂ (OH) ₁₂ (NO ₃) ₂ ·mH ₂ O, NO ₃ ⁻ , biomolecules	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
11	2001	Nanohybrids of non-stoichiometric zinc ferrite in amorphous silica	Zhou, ZH; Wang, J; Xue, JM; et al.	Chemistry; Materials Science	Fe, Zn, Si	Crystallography and polymer crystallization	MMNH
12	2001	Structural modelling of Eu ³⁺ -based siloxane-poly(oxethylene) nanohybrids	Dahmauche, K; Carlos, LD; Bermudez, VD; et al.	Chemistry; Materials Science	Polymer, Eu ³⁺	Synthesis of new nanohybrids/materials	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
13	2001	Coordination of Eu ³⁺ ions in siliceous nanohybrids containing short polyether chains and bridging urea cross-links	Bermudez, VD; Ferreira, RAS; Carlos, LD; et al.	Chemistry	Silica, Urea, Eu ³⁺	Crystallography and polymer crystallization	MMNH
14	2001	Magnetic probing of tunable Eu ³⁺ local site in organic-inorganic nanohybrids	Amaral, VS; Carlos, LD; Bermudez, VD	Engineering; Physics	Polymer, Urea, Eu ³⁺	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
15	2001	Energy-transfer mechanisms and emission quantum yields in Eu ³⁺ -based siloxane-poly(oxyethylene) nanohybrids	Ferreira, RAS; Carlos, LD; Goncalves, RR; et al.	Chemistry; Materials Science	Polymer, Urea, Eu ³⁺	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
16	2001	Cluster glass structure in nanohybrids of nonstoichiometric zinc ferrite in silica matrix	Zhou, ZH; Wang, J; Xue, JM; et al.	Physics	Fe, Zn, Si	Crystallography and polymer crystallization	MMNH
17	2002	A novel quantum dot pillared layered transition metal sulfide: CdS-MoS ₂ semiconductor-metal nanohybrid	Lee, JK; Lee, W; Yoon, TJ; et al.	Chemistry; Materials Science	CdS-MoS ₂	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
18	2002	Polyester layered silicate nanohybrids by controlled grafting polymerization	Lepoittevin, B; Pantoustier, N; Alexandre, M; et al.	Chemistry; Materials Science	Silica, caprolactone	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
19	2002	Synthesis of layered organic-inorganic nanohybrid material: an organic dye, naphthol blue black in magnesium-aluminum layered double hydroxide inorganic lamella	bin Hussein, MZ; Zainal, Z; Yahaya, AH; et al.	Materials Science; Physics	Mg, Al, naphthol blue black (NBB)	Synthesis of new nanohybrids/materials	OMCNH
20	2002	A new nanohybrid photocatalyst between anatase (TiO ₂) and layered titanate	Lee, HC; Jung, H; Oh, JM; et al.	Chemistry	TiO ₂ , titanate	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
21	2002	Exfoliation and restacking route to anatase-layered titanate nanohybrid with enhanced photocatalytic activity	Choy, JH; Lee, HC; Jung, H; et al.	Chemistry; Materials Science	TiO ₂ , titanate, anatase	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
22	2002	Layered silicate/polyester nanohybrids by controlled ring-opening polymerization	Lepoittevin, B; Pantoustier, N; Alexandre, M; et al.	Polymer Science	Silicate, polyester	Synthesis of new nanohybrids/materials	OMCNH
23	2002	High temperature proton conducting organic-inorganic nanohybrids for polymer electrolyte membrane - Part II	Nakajima, H; Nomura, S; Sugimoto, T; et al.	Electrochemistry; Materials Science	N/A	N/A	N/A
24	2002	Layer-by-layer self-assembling of liposomal nanohybrid "cerasome" on substrates	Katagiri, K; Hamasaki, R; Ariga, K; et al.	Chemistry; Materials Science	Cerasome, Silicate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
25	2002	Amphiphilic organic/inorganic nanohybrid macromolecules for intermediate-temperature proton conducting electrolyte membranes	Honma, I; Nakajima, H; Nishikawa, O; et al.	Electrochemistry; Materials Science	N/A	N/A	N/A
26	2002	Bio-LDH nanohybrid for gene therapy	Kwak, SY; Jeong, YJ; Park, JS; et al.	Chemistry; Physics	LDH, NO ₃ ⁻ , biomolecules	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
27	2002	Intercalative route to heterostructured nanohybrids	Choy, JH; Paek, SM; Oh, JM; et al.	Materials Science; Physics	Titanate, MoS ₂ , Cuprate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
28	2002	Heterostructured high-T _c superconducting nanohybrid: (Me ₃ S) ₂ HgI ₄ -Bi ₂ Sr ₂ CaCu ₂ O _y	Kwon, SJ; Choy, JH; Jung, D; et al.	Physics	Cuprate, HgI ₂ , organic cations	Semiconductors/superconductor s/conductive materials	OMCNH
29	2003	Single-wall carbon nanotube-ferrocene nanohybrids: Observing intramolecular electron transfer in functionalized SWNTs	Guldi, DM; Marcaccio, M; Paolucci, D; et al.	Chemistry	SWNT, ferrocene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
30	2003	Transparent nanohybrids of nanocrystalline TiO ₂ in PMMA with unique nonlinear optical behavior	Yuwono, AH; Xue, JM; Wang, J; et al.	Chemistry; Materials Science	TiO ₂ , PMMA	Optical imaging and applications	OMCNH
31	2003	Sulfidation of single molecular sheets of MoO ₃ pillared by bipyridine in nanohybrid MoO ₃ (4,4'-bipyridyl)(0.5)	Wei, XM; Zeng, HC	Chemistry; Materials Science	N/A	N/A	N/A
32	2003	Nanohybrid scratch resistant coatings for teeth and bone viscoelasticity manifested in tribology	de la Isla, A; Brostow, W; Bujard, B; et al.	Materials Science	N/A	N/A	N/A
33	2003	The synthesis and morphology characteristic study of BAO-ODPA polyimide/TiO ₂ nano hybrid films	Chiang, PC; Whang, WT	Polymer Science	Polyimide, TiO ₂	Optical imaging and applications	OMCNH
34	2003	Effect of molecular weight of poly(epsilon-caprolactone) on interpenetrating network structure, apatite-forming ability, and degradability of poly(epsilon-caprolactone)/silica nano-hybrid materials	Rhee, SH	Engineering; Materials Science	Poly(epsilon-caprolactone), silica, calcium salt	Biomaterials	OMCNH
35	2003	Magnetic properties of Fe-doped organic-inorganic nanohybrids	Silva, NJO; Amaral, VS; Carlos, LD; et al.	Physics	Siloxane (Si), urea, Fe	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
36	2003	Deposition of layer-by-layer inorganic-organic nano-hybrid Ultrathin films, electronics onto SBA-15	Ding, HM; Wang, LP; Shan, YK; et al.	Chemistry	TiO ₂ , dye mcs, polymer, silicate	Synthesis of new nanohybrids/materials	OMCNH
37	2003	Structure of magnetic poly(oxyethylene)-siloxane nanohybrids doped with Fe-II and Fe-III	Silva, NJO; Dahmouche, K; Santilli, CV; et al.	Crystallography	Siloxane (Si), poly(oxyethylene), Fe	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
38	2003	Novel polyimide/silica nanohybrids from water glass	Wang, HT; Zhong, W; Du, QG; et al.	Polymer Science	Polyimide, SiO ₂	Crystallography and polymer crystallization	OMCNH
39	2003	Study on intercalative nanohybrid of cordycepin in layered double hydroxide	Ling, JY; Yang, J; Yang, QZ; et al.	Chemistry	Mg, Al, NO ₃ ⁻ , biomolecules	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
40	2003	Synthesis of bioactive organic-inorganic nanohybrid for bone repair through sol-gel processing	Miyazaki, T; Ohtsuki, C; Tanihara, M	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Si, CaCl ₂ , calcium acetate, Polymers	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
41	2004	Integrating single-wall carbon nanotubes into donor-acceptor nanohybrids	Guldi, DM; Rahman, GMA; Jux, N; et al.	Chemistry	SWNT, pyrene, zn porphyrin complex	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
42	2004	TEM characterization of sol-gel-processed alumina-silica and alumina-titanic nano-hybrid oxide catalysts	Wunderlich, W; Padmaja, P; Warriar, KGK	Materials Science	Alumina, Titania, Silica	Synthesis of new nanohybrids/materials	MMNH
43	2004	Construction of intermolecular communication system on "Cerasome" as an organic-inorganic nanohybrid	Sasaki, Y; Yamada, M; Terashima, T; et al.	Polymer Science	Cerasome, amino groups, pyridoxal 5'-phosphate, Cu	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
44	2004	Urethane cross-linked poly(oxyethylene)/siliceous nanohybrids doped with Eu ³⁺ ions - Part 1. Coordinating ability of the host matrix	Bermudez, VD; Ostrovskii, D; Goncalves, MC; et al.	Chemistry; Physics	Silica, Urea, Eu ³⁺	Crystallography and polymer crystallization	OMCNH
45	2004	Urethane cross-linked poly(oxyethylene)/siliceous nanohybrids doped with Eu ³⁺ ions - Part 2. Ionic association	Bermudez, VD; Ostrovskii, D; Lavoryk, S; et al.	Chemistry; Physics	Silica, Urea, Eu ³⁺	Crystallography and polymer crystallization	OMCNH
46	2004	Intercalative route to heterostructured nanohybrid	Choy, JH	Chemistry; Physics	Titanate, Cuprate, LDH, Pyridine, Biomolecules	Semiconductors/superconductor s/conductive materials	OMCNH
47	2004	The synthesis and characteristic study of 6FDA-6FHP-NLO polyimide/SiO ₂ nanohybrid materials	Qiu, FX; Zhou, YM; Liu, JZ	Polymer Science	Polyimide, SiO ₂	Optical imaging and applications	OMCNH
48	2004	Nanohybrids from liquid crystalline extended amphiphilic dendrimers	Cho, BK; Jain, A; Mahajan, S; et al.	Chemistry	Poly(ethylene oxide), amphiphilic dendrimers, Silica, alumina	Synthesis of new nanohybrids/materials	OMCNH
49	2004	Photoluminescence and quantum yields of urea and urethane cross-linked nanohybrids derived from carboxylic acid solvolysis	Fu, LS; Ferreira, RAS; Silva, NJO; et al.	Chemistry; Materials Science	Urea, urethane	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
50	2004	Applications of telechelic polymers as compatibilizers and stabilizers in polymer blends and inorganic/organic nanohybrids	Kim, J; Kim, SS; Kim, KH; et al.	Polymer Science	N/A	N/A	N/A
51	2004	Synthesis and gas sensing properties of polypyrrole/MoO ₃ -layered nanohybrids	Matsubara, I; Hosono, K; Murayama, N; et al.	Chemistry	Polypyrrole, MoO ₃	Sensors/biosensors/electrochemical sensors	OMCNH
52	2004	Anatase crystal growth and photocatalytic characteristics of hot water-treated polyethylene oxide-titania nanohybrids	Sung, YM; Lee, YJ; Lee, SM	Crystallography; Materials Science; Physics	Polyethylene oxide, TiO ₂	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH

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53	2004	Synthesis of organo-mineral nanohybrid material: indole-2-carboxylate in the lamella of Zn-Al-layered double hydroxide	bin Hussein, MZ; Long, CW	Materials Science	Zn, Al, Indole	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
54	2004	Optically functional Di-urethanesil nanohybrids containing Eu ³⁺ ions	Goncalves, MC; Bermudez, VD; Ferreira, RAS; et al.	Chemistry; Materials Science	Poly(oxyethylene), siloxane, Eu	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
55	2004	Controlled morphology and crystalline phase of poly(ethylene oxide)-TiO ₂ nanohybrids	Sung, YM; Lee, JK	Chemistry; Crystallography; Materials Science	Poly(ethylene oxide), TiO ₂	Crystallography and polymer crystallization	OMCNH
56	2004	Cerasome as an organic-inorganic vesicular nanohybrid: Characterization of cerasome-forming lipids having a single or a dual trialkoxysilyl head	Hashizume, M; Inoue, H; Katagiri, K; et al.	Materials Science	Cerasome, siloxane	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
57	2004	Influence of host lattice on the chemical bonding nature of guest species in high-T _c superconducting I-Bi ₂ Sr _{1.5-x} La _x Ca _{1.5} Cu ₂ O _y nanohybrids	Hwang, SJ; Park, DH; Choy, JH	Chemistry	I, Bi, Sr, La, Cu	Semiconductors/superconductors/conductive materials	MMNH
58	2004	Synthesis of kaolinite-organic nanohybrids with butanediols	Murakami, J; Itagaki, T; Kuroda, K	Chemistry; Physics	Kaolinite, methanol	Synthesis of new nanohybrids/materials	OMCNH
59	2004	Poly(N-isopropylacrylamide)-coated carbon nanotubes: Temperature-sensitive molecular nanohybrids in water	Kong, H; Li, WW; Gao, C; et al.	Polymer Science	MWNT, poly(N-isopropylacrylamide)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
60	2004	Properties of polyimide/silica nanohybrids from silicic acid oligomer	Wang, HT; Zhong, W; Xu, P; et al.	Materials Science; Polymer Science	Polyimide, SiO ₂	Crystallography and polymer crystallization	OMCNH
61	2004	Surface roughness of nanofill and nanohybrid composite resin and ormocer-based tooth-colored restorative materials after several finishing and polishing procedures	Baseren, M	Engineering; Materials Science	N/A	N/A	N/A
62	2004	Synthesis and morphological characterization on PVP/ZnO nanohybrid films	Du, T; Ilegbusi, OJ	Materials Science	PVP, ZnO	Synthesis of new nanohybrids/materials	OMCNH
63	2004	Organic-inorganic polyamidoamine (PAMAM) dendrimer-polyhedral oligosilsesquioxane (POSS) nanohybrids	Dvornic, PR; Hartmann-Thompson, C; Keinath, SE; et al.	Polymer Science	Polyamidoamine dendrimer, polyhedral oligosilsesquioxane	Crystallography and polymer crystallization	OMCNH
64	2004	Controlling the crystallinity and nonlinear optical properties of transparent TiO ₂ -PMMA nanohybrids	Yuwono, AH; Liu, BH; Xue, JM; et al.	Chemistry; Materials Science	Polymethyl methacrylate, TiO ₂	Optical imaging and applications	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
65	2004	Organic-inorganic nanohybrids obtained by sequential copolymerization of epsilon-caprolactone and L,L-lactide from activated clay surface	Pollet, E; Delcourt, C; Alexandre, M; et al.	Polymer Science	caprolactone, lactide, clay	Crystallography and polymer crystallization	OMCNH
66	2004	Preparation of the electrode for high temperature PEFCs using novel polymer electrolytes based on organic/inorganic nanohybrids	Nishikawa, O; Sugimoto, T; Nomura, S; et al.	Electrochemistry	N/A	N/A	N/A
67	2005	Evaluation of a chitosan nano-hybrid material containing silanol group and calcium salt as a bioactive bone graft	Rhee, SH; Lee, YK; Lim, BS	Materials Science	Chitosan, siloxane	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
68	2005	A robust three-dimensional mesoporous Ag/TiO ₂ nanohybrid film	Wang, XC; Yu, JC; Ho, CM; et al.	Chemistry	Ag, TiO ₂	Synthesis of new nanohybrids/materials	OMCNH
69	2005	Polyimide/silica/titania nanohybrids via a novel non-hydrolytic sol-gel route	Wang, HT; Zhong, W; Xu, P; et al.	Engineering; Materials Science	Polyimide, SiO ₂ , TiO ₂	Optical imaging and applications	OMCNH
70	2005	Immobilization of glucose oxidase using pyrrole-titania nanohybrids for electrochemical biosensor applications	Sung, YM; Park, KS; Lee, YJ; et al.	Electrochemistry; Materials Science	Pyrrole, TiO ₂	Sensors/biosensors/electrochemical sensors	OMCNH
71	2005	Influence of pH on the formation of Tyr/LDH nanohybrids	Li, SP; Zhao, G; Chen, HY	Chemistry	Tyrosine, LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
72	2005	Structuration of organo-minerals: nanohybrid materials resulting from the incorporation of alcohols in the tunnels of palygorskite	Kuang, W; Detellier, C	Chemistry; Materials Science	N/A	N/A	N/A
73	2005	Effect of surface stabilization of nanoparticles on luminescent characteristics in ZnO/poly(hydroxyethyl methacrylate) nanohybrid films	Hung, CH; Whang, WT	Chemistry; Materials Science	Poly(hydroxyethyl methacrylate), ZnO	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
74	2005	Effect of the polyimide structure and ZnO concentration on the morphology and characteristics of polyimide/ZnO nanohybrid films	Hsu, SC; Whang, WT; Hung, CH; et al.	Polymer Science	Polyimide, ZnO ₂	Crystallography and polymer crystallization	OMCNH
75	2005	Matrix assisted formation of ferrihydrite nanoparticles in a siloxane/poly(oxyethylene) nanohybrid	Silva, NJO; Amaral, VS; Bermudez, VD; et al.	Chemistry; Materials Science	Poly(oxyethylene), siloxane	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
76	2005	Optical characteristics of photo-curable methacryl-oligosiloxane nanohybrid thick films	Eo, YJ; Kim, JH; Ko, JH; et al.	Materials Science	N/A	N/A	N/A

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77	2005	Soft-x-ray absorption spectroscopy of heterostructured high-T-c superconducting nano-hybrids: X-Bi ₂ Sr ₂ CaCu ₂ O ₈ [X=I, HgI ₂ , and (Py-CH ₃)(₂)HgI ₄]	Chen, JM; Chang, SC; Liu, RS; et al.	Physics	I, Hg, pyridine	Semiconductors/superconductor s/conductive materials	MMNH
78	2005	Synthesis and molecular structure analysis of nano-sized methacryl-grafted polysiloxane resin for fabrication of nano hybrid materials	Eo, YJ; Lee, TH; Kim, SY; et al.	Polymer Science	N/A	N/A	N/A
79	2005	Inclusion of ferrocene in a cyclodextrin-functionalized layered metal hydroxide: A new organometallic-organic-LDH nano-hybrid	Mohanambe, L; Vasudevan, S	Chemistry	Cyclodextrin, ferrocene	Synthesis of new nano-hybrids/materials	OMCNH
80	2005	Multiwalled carbon nanotubes in donor-acceptor nano-hybrids - towards long-lived electron transfer products	Guldi, DM; Rahman, GMA; Jux, N; et al.	Chemistry	MWNT, metalloporphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
81	2005	Dispersable carbon nanotube/gold nano-hybrids: Evidence for strong electronic interactions	Rahman, GMA; Guldi, DM; Zambon, E; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, MWNT, Au	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
82	2005	Nano-hybrid Shish-kebabs: Periodically functionalized carbon nanotubes	Li, CY; Li, LY; Cai, WW; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, MWNT, polyethylene and nylon	Synthesis of new nano-hybrids/materials	OMCNH
83	2005	Interfacial interactions and structure of organic-inorganic nano-hybrids	Zeng, QH; Yu, AB; Lu, GQ; et al.	Materials Science; Metallurgy & Metallurgical Engineering	dioctadecyldimethyl ammonium, clay	Synthesis of new nano-hybrids/materials	OMCNH
84	2005	Transparent TiO ₂ -PMMA nano-hybrids of high nanocrystallinity and enhanced nonlinear optical properties	Yuwono, AH; Xue, JM; Wang, J; et al.	Optical; Physics	Polymethyl methacrylate, TiO ₂	Optical imaging and applications	OMCNH
85	2005	Synthesis beta-Sialon powder with rectorite/phenolic resin nano-hybrid precursor	Wang, ZF; Zhang, BG; Wang, XT; et al.	Materials Science; Metallurgy & Metallurgical Engineering	N/A	N/A	N/A
86	2005	An inorganic nano-hybrid with high specific surface area: TiO ₂ -pillared MoS ₂	Paek, SM; Jung, H; Park, M; et al.	Chemistry; Materials Science	TiO ₂ , MoS ₂	Synthesis of new nano-hybrids/materials	MMNH
87	2005	Organic-inorganic nano-hybridization by block copolymer thin films	Kim, DH; Sun, ZC; Russell, TP; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Polystyrene, poly(ethylene oxide), TiO ₂	Sensors/biosensors/electrochemical sensors	OMCNH
88	2005	Synthetic model of a bioactive functionally graded nano-hybrid in silica-polydimethylsiloxane system	Lee, KY; Lee, YH; Kim, HM; et al.	Materials Science; Physics	Polydimethylsiloxane, SiO ₂	Synthesis of new nano-hybrids/materials	OMCNH
89	2005	Thermomechanical properties and phase structure of epoxy/silica nano-hybrid materials constructed from a linear silicone oligomer	Ochi, M; Matsumura, T	Polymer Science	Epoxy, silicone oligomer	Crystallography and polymer crystallization	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
90	2005	Bioelectrochemically functional nanohybrids through co-assembling of proteins and surfactants onto carbon nanotubes: Facilitated electron transfer of assembled proteins with enhanced faradic response	Yan, YM; Zheng, W; Zhang, MN; et al.	Chemistry; Materials Science	SWNT, MWNT, Heme proteins	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
91	2005	Direct electron transfer and electrocatalysis of microperoxidase immobilized on nanohybrid film	Liu, Y; Wang, MK; Zhao, F; et al.	Chemistry; Electrochemistry	MWNT, Au, microperoxidase	Sensors/biosensors/electrochemical sensors	OMCNH
92	2005	Optical properties of self-assembled nano-hybrid materials	Kitazawa, N; Watanabe, Y	Materials Science; Physics	N/A	N/A	N/A
93	2005	Metallized organoclays as new intermediates for aqueous nanohybrid dispersions, nanohybrid catalysts and antimicrobial polymer hybrid nanocomposites	Weickmann, H; Tiller, JC; Thomann, R; et al.	Materials Science; Polymer Science	Sodium bentonite nanoplatelets, bentonite supported silver, palladium, copper	Synthesis of new nanohybrids/materials	OMCNH
94	2005	Studies of the preparation and photoelectric properties of nanohybrid LB films of 2,5-bis(ferrocenylethynyl)thiophene/tungstophosphoric heteropolyacids	Li, MX; Liu, L; Liu, SZ; et al.	Chemistry	2,5-bis(ferrocenylethynyl)thiophene (BFET)/dimethyldioctadecylammonium (DNMOA)/tungstophosphoric heteropolyacids	Synthesis of new nanohybrids/materials	OMCNH
95	2005	Influence of molar ratio of Zn/Al/Tyr on the formation of Tyr/Zn-Al-LDH nanohybrids	Li, SP; Xu, JJ; Zhao, G; et al.	Chemistry	Tyrosine, LDH, Zn, Al	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
96	2005	Preparation and characterization of organic-inorganic layered nanohybrid, Hydroxyl Double Salts (HDSs) - Isomer separation via preferential intercalation into layered framework	Tan, BH; Tagaya, H	Chemistry	Zn, Ni, hydroxyl double salts	Synthesis of new nanohybrids/materials	OMCNH
97	2005	Transparent polymer nanohybrid prepared by in situ synthesis of aluminosilicate nanofibers in poly(vinyl alcohol) solution	Yamamoto, K; Otsuka, H; Wada, SI; et al.	Chemistry; Materials Science; Physics; Polymer Science	Poly(vinyl alcohol), aluminosilicate	Crystallography and polymer crystallization	OMCNH
98	2005	Studies on the preparation and photoelectric properties of nanohybrid LB films of organometallic polymer/octadecylammonium/heteropolyan ions	Liu, L; Zhang, GS; Liu, SZ; et al.	Chemistry	tungsto(molybdo)phosphoric heteropoly acids	Synthesis of new nanohybrids/materials	OMCNH
99	2006	Nanohybrids composed of quantum dots and cytochrome P450 as photocatalysts	Ipe, BI; Niemeyer, CM	Chemistry	CdS quantum dots, P450	Sensors/biosensors/electrochemical sensors	OMCNH
100	2006	In vitro bioactivity of Bi-structured nano-hybrids in the CaO-SiO ₂ -PTMO al. system	Koh, MY; Kim, HM; Lee, HK; et al.	Materials Science	poly(tetramethylene oxide), SiO ₂ , CaO	Biomaterials	OMCNH

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101	2006	Sol-gel synthetic model of bi-structured bioactive nano-hybrids in TEOS-PDMS system	Lee, KY; Lee, YH; Kim, HM; et al.	Materials Science	tetraethoxysilane, polydimethylsiloxane, silicate	Biomaterials	OMCNH
102	2006	Osteogenic differentiation of human bone marrow stromal cells cultured on hydroxyl carbonate apatite layer preformed on poly(epsilon-caprolactone)-organosiloxane nano-hybrid materials	Yoo, JJ; Kim, HJ; Rhee, SH	Materials Science	poly(e-caprolactone)-organosiloxane, hydroxyl carbonate apatite layer	Biomaterials	OMCNH
103	2006	Layered titanate-zinc oxide nanohybrids with mesoporosity	Kim, TW; Hur, SG; Hwang, SJ; et al.	Chemistry	Titanate, ZnO	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
104	2006	Characteristics of thin film of nano-hybrid synthesized from acrylic resin and colloidal silica-silane sol	Kang, DP; Park, HY; Kang, YT; et al.	Engineering; Materials Science	Acrylic, silane, silica	Synthesis of new nanohybrids/materials	OMCNH
105	2006	Proton conducting phosphated zirconia-sulfonated polyether sulfone nanohybrid electrolyte for low humidity, wide-temperature PEMFC operation	Anilkumar, GM; Nakazawa, S; Okubo, T; et al.	Electrochemistry	Zr, poly ether sulfone	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
106	2006	Electronically interacting single wall carbon nanotube-porphyrin nanohybrids	Rahman, GMA; Guldi, DM; Campidelli, S; et al.	Chemistry; Materials Science	SWNT, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
107	2006	Organo-mineral nanohybrids. Incorporation, coordination and structuration role of acetone molecules in the tunnels of sepiolite	Kuang, WX; Facey, GA; Detellier, C	Chemistry; Materials Science	Acetone, sepiolite	Crystallography and polymer crystallization	OMCNH
108	2006	Covalently porphyrin-functionalized single-walled carbon nanotubes: a novel photoactive and optical limiting donor-acceptor nanohybrid	Guo, Zhen; Du, Feng; Ren, Dongmei; et al.	Chemistry; Materials Science	SWNT, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
109	2006	Pulsed laser deposition and fabrication of CoO/ZnO and CoO/TiO2 nano-hybrid thin film	Van, LH; Hong, MH; Ding, J	Materials Science; Physics	CoO, ZnO, TiO2	Semiconductors/superconductor s/conductive materials	MMNH
110	2006	Iron cytochrome C nanohybrids - Supramolecular electron transfer to an electron accepting fullerene	Guldi, Dirk M.; Zilbermann, Israel; Hatzimarinaki, Maria; et al.	Chemistry	Polyhedral oligosilsesquioxane (POSS), polymers	Crystallography and polymer crystallization	OMCNH
111	2006	Surfactant functionalization of carbon nanotubes (CNTs) for layer-by-layer assembling of CNT multi-layer films and fabrication of gold nanoparticle/CNT nanohybrid	Zhang, MN; Su, L; Mao, LQ	Chemistry; Materials Science	MWNT, Au	Sensors/biosensors/electrochemical sensors	CMNH
112	2006	Heterostructured nanohybrid of zinc oxide-montmorillonite clay	Hur, SG; Kim, TW; Hwang, SJ; et al.	Chemistry	ZnO, aluminosilicate	Catalytic/Photocatalytic/Electro catalytic applications	MMNH

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113	2006	Poly(triphenylamine) related copolymer noncovalently coated MWCNT nanohybrid: fabrication and observation of enhanced photoconductivity	Xu, WJ; Chen, HZ; Shi, MM; et al.	Science & Technology - Other Topics; Materials Science; Physics	MWNT, poly(triphenylamine)	Sensors/biosensors/electrochemical sensors	OMCNH
114	2006	Direct fabrication of anatase/activated carbon nano-hybrid materials by hydrothermal with ball milling method at low temperature	Sakamoto, N; Fujino, T; Watanabe, T; et al.	Materials Science	SWNT, MWNT, thioglycolic acid, CdTe	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
115	2006	Urea biosensor based on Zn3Al-urease layered double hydroxides nanohybrid coated on insulated silicon structures	Barhoumi, H; Maaref, A; Rammah, A; et al.	Materials Science	Urea, LDH, Zn, Al	Sensors/biosensors/electrochemical sensors	OMCNH
116	2006	Nanohybrid-layered double hydroxides/urease materials: Synthesis and application to urea biosensors	Vial, S; Forano, C; Shan, D; et al.	Materials Science	Urea, LDH, Zn, Al	Sensors/biosensors/electrochemical sensors	OMCNH
117	2006	Exfoliation and reassembling route to mesoporous titania nanohybrids	Paek, SM; Jung, H; Lee, YJ; et al.	Chemistry; Materials Science	Titanate, anatase	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
118	2006	Nano-hybrid luminescent dot: synthesis, characterization and optical properties	Xiao, Y; Liu, L; He, CB; et al.	Chemistry; Materials Science	polyhedral oligomeric silsesquioxanes, oligophenylene	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
119	2006	Noncovalent nanohybrid of ferrocene with single-walled carbon nanotubes and its enhanced electrochemical property	Yang, XY; Lu, YH; Ma, YF; et al.	Chemistry; Physics	SWNT, ferrocene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
120	2006	Preparation and morphology of SiO2/PMMA nanohybrids by microemulsion polymerization	Xu, P; Wang, HT; Tong, R; et al.	Chemistry; Polymer Science	Polymethyl methacrylate, silica	Crystallography and polymer crystallization	OMCNH
121	2006	Preparation of well-defined PVOH/C60 nanohybrids by cobalt-mediated radical polymerization of vinyl acetate	Detrembleur, C; Stoilova, O; Bryaskova, R; et al.	Polymer Science	Poly(vinyl acetate), Co, C60	Optical imaging and applications	OMCNH
122	2006	Tin dioxide materials chemically modified with trialkynylorganotin: Functional nanohybrids for photovoltaic applications	Vilaca, G; Jousseau, B; Mahieux, C; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Tin dioxide, trialkynylorganotin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
123	2006	Photocatalytic degradation of flexible PVC/TiO2 nanohybrid as an eco-friendly alternative to the current waste landfill and dioxin-emitting incineration of post-use PVC	Kim, SH; Kwak, SY; Suzuki, T	Polymer Science	N/A	N/A	N/A
124	2006	Aluminosilicate nanohybrid materials. Intercalation of polystyrene in kaolinite	Elbokl, Tamer A.; Detellier, Christian	Chemistry; Physics	Polystyrene, kaolinite (aluminosilicate)	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
125	2006	Exfoliation-restacking route to Au nanoparticle-clay nanohybrids	Paek, Seung-Min; Jang, Jae-Up; Hwang, Seong-Ju; et al.	Chemistry; Physics	kaolinite (aluminosilicate), Au	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH

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126	2006	Efficient delivery of anticancer drug MTX through MTX-LDH nanohybrid system	Oh, Jae-Min; Park, Man; Kim, Sang-Tae; et al.	Chemistry; Physics	Methotrexate, LDH(Mg, Al)	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
127	2006	A novel hetero structured RuS2-titanate nanohybrid	Jung, Hyun; Lee, Hyun-Chel; Paek, Seung-Min; et al.	Chemistry; Physics	RuS2 (ruthenium sulfide), titanate	Synthesis of new nanohybrids/materials	MMNH
128	2006	In situ formation of recombinant humanlike collagen-hydroxyapatite nanohybrid through bionic approach	Murugan, R; Ramakrishna, S	Physics	Collagen, hydroxyapatite	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
129	2006	Cytotoxicity evaluation of two different composites with/without fibers and one nanohybrid composite	Tuncel, Aykut; Oezdemir, Ali Kemal; Suemer, Zeynep; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	block copolymers, alkoxyethyl groups	Crystallography and polymer crystallization	OMCNH
130	2006	Redox behavior of nanohybrid material with defined morphology: Vanadium oxide nanotubes intercalated with polyaniline	Malta, Marcos; Louarn, Guy; Errien, Nicolas; et al.	Electrochemistry; Energy & Fuels	Vanadium oxide, polyaniline	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
131	2006	Abrasion properties of alkyd- and acrylic-based polymer-ceramic nanohybrid coatings on wood surfaces	Rodriguez, Rogelio; Vargas, Susana; Rubio, Efrain; et al.	Materials Science	alkyd, acrylic polyurethane, silica	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
132	2006	Facile and large-scale synthesis and characterization of carbon nanotube/silver nanocrystal nanohybrids	Gao, C; Li, WW; Jin, YZ; et al.	Science & Technology - Other Topics; Materials Science; Physics	SWNT, MWNT, Ag	Synthesis of new nanohybrids/materials	CMNH
133	2006	Titania-PMMA nanohybrids of enhanced nanocrystallinity	Yuwono, Akhmad Herman; Xue, Junmin; Wang, John; et al.	Materials Science	Polyethylene glycol, 3-(triethoxysilyl)-propyl isocyanate, Zn	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
134	2006	Molecular assembly, luminescence and morphology of novel zinc/inorganic/organic nanohybrid material with covalent linkage	Yan, Bing; Yao, Run-Feng; Zhao, Li-Min	Materials Science	Poly(2-hydroxyethyl acrylate)-co-methyl methacrylate, SiO2	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
135	2006	A two-dimensional infrared correlation spectroscopic study on the thermal degradation of poly (2-hydroxyethyl acrylate)-co-methyl methacrylate/SiO2 nanohybrids	Xu, P; Wang, HT; Tong, R; et al.	Polymer Science	Zn, polyethylene glycol	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
136	2006	Room-temperature aqueous synthesis of highly luminescent BaWO4-polymer nanohybrids and their spontaneous conversion to hexagonal WO3 nanosheets	Oaki, Yuya; Imai, Hiroaki	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Ba, WO3 (tungsten trioxide), polyacrylic acid	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
137	2006	Preparation and characterization of nanohybrid LB films of tert-butylcalix[8]arene/molybdophosphoric acid	Liu Li; Liu Shi-Zhong; Ai Wei-He; et al.	Chemistry	tert-butylcalix[8]arene, octadecylammonium, molybdophosphoric acid	Synthesis of new nanohybrids/materials	OMCNH
138	2006	Bio-nanohybrids based on layered inorganic solids: Gelatin nanocomposites	Darder, Margarita; Isabel Ruiz, Ana; Aranda, Pilar; et al.	Biotechnology & Applied Microbiology; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A

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139	2006	Bio-nanohybrids based on layered double hydroxide	Choy, Jin-Ho; Park, Man; Oh, Jae-Min	Biotechnology & Applied Microbiology; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A
140	2006	Nanohybrid enzymes - Layered double hydroxides: Potential applications	Forano, Claude; Vial, Stephanie; Mousty, Christine	Biotechnology & Applied Microbiology; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A
141	2006	Fabrication of UV-blocking nanohybrid coating via miniemulsion polymerization	Lu, Haifeng; Fei, Bin; Xin, John H.; et al.	Chemistry	Polystyrene, ZnO	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
142	2006	Functional nanohybrids constructed via complexation of multiwalled carbon nanotubes with novel hexameric metallomacrocycles	Hwang, Seok-Ho; Moorefield, Charles N.; Dai, Liming; et al.	Chemistry; Materials Science	MWNT, metallohexamers	Optical imaging and applications	CMNH
143	2006	Evidence of two-dimensional superconductivity in the single crystalline nanohybrid of organic-bismuth cuprate	Chung, Il-Won; Kwon, Soon-Jae; Kim, Seung-Joo; et al.	Chemistry	HgI ₂ , pyridine, bismuth cuprate	Semiconductors/superconductor s/conductive materials	MMNH
144	2006	Interactions in single wall carbon nanotubes/pyrene/porphyrin nanohybrids	Ehli, Christian; Aminur Rahman, G. M.; Jux, Norbert; et al.	Chemistry	SWNT, pyrene, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
145	2006	Lanthanide-based lamellar nanohybrids: Synthesis, structural characterization, and optical properties	Karmaoui, Mohamed; Ferreira, Rute A. Sa; Mane, Ankush T.; et al.	Chemistry; Materials Science	Ln(III) isopropoxides (Ln = Gd, Sm, Nd), Eu ³⁺ , Tb	Optical imaging and applications	MMNH
146	2006	Novel organic-inorganic poly (3,4-ethylenedioxythiophene) based nanohybrid materials for rechargeable lithium batteries and supercapacitors	Murugan, A. Vadivel	Electrochemistry; Energy & Fuels	N/A	N/A	N/A
147	2006	Xerogel from N,N'-bis(2-phosphonoethyl)-1,4,5,8-naphthalenediimide: a nanohybrid material displaying efficient tryptophan photooxidation	Rodrigues, Magali A.; Bemquerer, Marcelo P.; Mohallem, Nelcy D. S.; et al.	Chemistry; Materials Science	tetraethyl orthosilicate (TEOS), N,N'-bis(2-phosphonoethyl)-1,4,5,8-naphthalenediimide (DPN)	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	MMNH
148	2006	Optical properties of lanthanide-doped lamellar nanohybrids	Ferreira, Rute A. Sa; Karmaoui, Mohamed; Nobre, Sonia S.; et al.	Chemistry; Physics	Lanthanide doped lamellar nanohybrids, yttrium or gadolinium oxide crystalline layers, Tb ³⁺ , Eu ³⁺ , Nd ³⁺	Optical imaging and applications	MMNH
149	2006	Synthesis and optical properties of nanohybrids in the system constituted by silica and lanthanide phosphoramidate complexes	Khimich, N. N.; Zub, Yu. L.; Koptelova, L. A.; et al.	Chemistry	Silica, lanthanide phosphoramidate	Synthesis of new nanohybrids/materials	MMNH
150	2006	The dynamic process in the formation of Tyr/LDH nanohybrids	Li, Shu-Ping	Chemistry	Tyrosine, LDH	Synthesis of new nanohybrids/materials	OMCNH

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151	2006	Synthesis and characteristics of polyimide/titania nano hybrid films	Tsai, Mei-Hui; Liu, Shu-Jhuan; Chiang, Pei-Chun	Materials Science; Physics	Polyimide, TiO ₂	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
152	2006	Absorption and Raman study for POSS-oligophenylene nanohybrid molecules	Xiao, Yang; Tripathy, Sudhiranjan; Lin, Tingting; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Oligophenylene, Polyhedral Oligosilsesquioxane (POSS)	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
153	2006	Incorporation of lipid domains in Cerasome, a morphologically-stable organic-inorganic vesicular nanohybrid	Hashizume, Mineo; Saeki, Isamu; Otsuki, Masashi; et al.	Materials Science	Cerasome-forming lipid, a cationic synthetic lipid, and a zwitterionic phospholipid	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
154	2006	Diblock copolymer templated nanohybrid thin films of highly ordered TiO ₂ nanoparticle arrays in PMMA matrix	Yuwono, Akhmad Herman; Zhang, Yu; Wang, John; et al.	Chemistry; Materials Science	poly(methylmethacrylate)-b-polyethylene oxide diblock copolymer, TiO ₂	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
155	2006	Influence of temperature on the formation of Tyr/LDH nanohybrids	Li Shu-Ping	Chemistry	Tyrosine, LDH	Biomaterials	OMCNH
156	2007	Multifunctional magneto-polymeric nanohybrids for targeted detection and synergistic therapeutic effects on breast cancer	Yang, Jaemoon; Lee, Choong-Hwan; Ko, Hyun-Ju; et al.	Chemistry	QD, Block copolymers	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
157	2007	Functionalized nanohybrid materials obtained from the interlayer grafting of aminoalcohols on kaolinite	Letaief, Sadok; Detellier, Christian	Chemistry	Aminoalcohols, kaolinite	Synthesis of new nanohybrids/materials	OMCNH
158	2007	Preparation and characterization of a novel organic-inorganic nanohybrid "cerasome" formed with a liposomal membrane and silicate surface	Katagiri, Kiyofumi; Hashizume, Mineo; Ariga, Katsuhiko; et al.	Chemistry	organoalkoxysilanes, silicate cerosomes	Synthesis of new nanohybrids/materials	OMCNH
159	2007	Surface roughness of nanofill and nanohybrid resin composites after polishing and brushing	Senawongse, Pisol; Pongprueksa, Pong	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
160	2007	Nanohybrid materials from the intercalation of imidazolium ionic liquids in kaolinite	Letaief, Sadok; Detellier, Christian	Chemistry; Materials Science	Kaolinite, imidazolium	Synthesis of new nanohybrids/materials	OMCNH
161	2007	Biocompatible protoporphyrin IX-containing nanohybrids with potential applications in photodynamic therapy	Kantonis, Giorgos; Trikeriotis, Markos; Ghanotakis, Demetrios F.	Chemistry	Protoporphyrin IX, Mg-Al LDH	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
162	2007	Organic - Inorganic Nano-Hybrid Materials	Chujo, Yoshiki	Engineering; Materials Science	N/A	N/A	N/A
163	2007	Hierarchical aqueous self-assembly of C60 nano-whiskers and C60-silver nano-hybrids under continuous flow	Iyer, K. Swaminathan; Raston, Colin L.; Saunders, Martin	Biochemistry & Molecular Biology; Chemistry; Science & Technology - Other Topics	Starch-iodine complex, C60, AgNO ₃	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	CMNH
164	2007	Toxicity and biomedical imaging of layered nanohybrids in the mouse	Flesken-Nikitin, Andrea; Toshkov, Illia; Naskar, Jishnu; et al.	Pathology; Toxicology	Lucifer Yellow, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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165	2007	Nondestructive formation of supramolecular nanohybrids of single-walled carbon nanotubes with flexible porphyrinic polypeptides	Saito, Kenji; Troiani, Vincent; Qiu, Hongjin; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, porphyrinic polypeptide	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
166	2007	Polypyrrole-Fe ₂ O ₃ nanohybrid materials for electrochemical storage	Mallouki, M.; Tran-Van, F.; Sarrazin, C.; et al.	Electrochemistry	Polypyrrole, Fe ₂ O ₃	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
167	2007	Poly(methyl acrylate) plus mesoporous silica nanohybrids: Mechanical and thermophysical properties	Perez, Leon D.; Giraldo, Luis F.; Brostow, Witold; et al.	Polymer Science	Poly(methyl acrylate), silica	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
168	2007	Nanohybrid polymer prepared by successive polymerization of methacrylate monomer containing silver nanoparticles in situ prepared under microwave irradiation	Wada, Yuji; Kobayashi, Taishi; Yamasaki, Hayahide; et al.	Polymer Science	Poly(methylmetacrylate), Ag	Optical imaging and applications	OMCNH
169	2007	Dynamics of stress bearing particle networks in poly(propylene)/alumina nanohybrids	Acierno, Domenico; Filippone, Giovanni; Romeo, Giovanni; et al.	Materials Science; Polymer Science	poly(propylene), alumina	Synthesis of new nanohybrids/materials	OMCNH
170	2007	Synthesis of biocompatible hydrophobic silica-gelatin nanohybrid by sol-gel process	Smitha, S.; Shajesh, P.; Mukundan, P.; et al.	Biophysics; Chemistry; Materials Science	SiO ₂ , methyltrimethoxysilane, gelatin	Optical imaging and applications	OMCNH
171	2007	An organic-inorganic nanohybrid based on lunar soil simulant	Qiao, Yu; Chen, Jin; Han, Aijie	Materials Science	SWNT, porphyrin/Zn naphthalocyanine	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
172	2007	Nanohybrids for controlled antibiotic release in topical applications	Tammaro, L.; Costantino, U.; Bolognese, A.; et al.	Infectious Diseases; Microbiology; Pharmacology & Pharmacy	chloramphenicol succinate, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
173	2007	Nanohybrid material of SWNTs covalently functionalized with porphyrin for light harvesting antenna: Synthesis and photophysical properties	Ren, Dongmei; Guo, Zhen; Du, Feng; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, porphyrin	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
174	2007	New nanohybrids of poly(epsilon-caprolactone) and a modified Mg/Al hydroxalcite: Mechanical and thermal properties	Pucciariello, Rachele; Tammaro, Loredana; Villani, Vincenzo; et al.	Polymer Science	poly(epsilon-caprolactone), Mg-Al LDH	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
175	2007	Antiwetting silica-gelatin nanohybrid and transparent nano coatings synthesised through an aqueous sol-gel process	Smitha, S.; Shajesh, P.; Mukundan, P.; et al.	Materials Science	vinyltrimethoxysilane (gelatin), silica	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
176	2007	New inorganic-based drug delivery system of indole-3-acetic acid-layered metal hydroxide nanohybrids with controlled release rate	Yang, Jae-Hun; Han, Yang-Su; Park, Man; et al.	Chemistry; Materials Science	indole-3-acetic acid, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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177	2007	Donor-acceptor nanohybrids of zinc naphthalocyanine or zinc porphyrin noncovalently linked to single-wall carbon nanotubes for photoinduced electron transfer	Chitta, Raghu; Sandanayaka, Atula S. D.; Schumacher, Amy L.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, porphyrin/Zn naphthalocyanine	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
178	2007	Nanohybrid TiO ₂ /carbon black sensor for NO ₂ gas	Liou, Wei-Jen; Lin, Hong-Ming	Engineering; Materials Science	TiO ₂ , carbon black	Sensors/biosensors/electrochemical sensors	CMNH
179	2007	Studies on microscopic structure of sol-gel derived nanohybrids containing heteropolyacid	Nakanishi, Takayuki; Norisuye, Tomohisa; Sato, Haruyoshi; et al.	Polymer Science	Heteropolyacid, 1,8-Bis(triethoxysilyl)octane (TES-Oct), (OC ₂ H ₅) ₃ -Si-(CH ₂) ₈ -Si-(OC ₂ H ₅) ₃ , phosphotungstic acid (PWA), H ₃ PW ₁₂ O ₄₀	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
180	2007	Single-walled carbon nanotube gold nanohybrids: Application in highly effective transparent and conductive films	Kong, Byung-Seon; Jung, Dae-Hwan; Oh, Sang-Keun; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, Au	Transparent and conductive films	CMNH
181	2007	Au/titania composite nanoparticle arrays with controlled size and spacing by organic-inorganic nanohybridization in thin film block copolymer templates	Li, Xue; Fu, Jun; Steinhart, Martin; et al.	Chemistry	Au, TiO ₂ , block copolymers (polystyrene-block-polyethylene oxide)	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
182	2007	Synthesis of osteoconductive organic-inorganic nanohybrids through modification of chitin with alkoxy silane and calcium chloride	Miyazaki, Toshiki; Ohtsuki, Chikara; Ashizukal, Masahiro	Engineering; Materials Science	Chitin, alkoxy silane, calcium chloride	Biomaterials	OMCNH
183	2007	Preparation of DNA - Silver nanohybrids in multilayer nanoreactors by in situ electrochemical reduction, characterization, and application	Shang, Li; Wang, Yuling; Huang, Lijian; et al.	Chemistry; Materials Science	Montmorillonite, polyimide	Synthesis of new nanohybrids/materials	OMCNH
184	2007	A simplified processing technique of organic-inorganic intercalation/exfoliation nanohybrid	Qiao, Yu; Chen, Jin; Han, Aijie; et al.	Materials Science	Carbon nanohorns, porphyrins	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
185	2007	Covalent functionalization of carbon nanohorns with porphyrins: Nanohybrid formation and photoinduced electron and energy transfer	Pagona, Georgia; Sandanayaka, Atula S. D.; Araki, Yasuyuki; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	DNA, Ag	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
186	2007	Femtosecond laser synthesized nanohybrid materials for bioapplications	Sajti, Cs. L.; Giorgio, S.; Khodorkovsky, V.; et al.	Chemistry; Materials Science; Physics	ZnO, Tetramethylrhodamine B isothiocyanate, Rhodamine B	Biomaterials	OMCNH
187	2007	Quality of curing in relation to hardness, degree of cure and polymerization depth measured on a nano-hybrid composite	Ilie, Nicoleta; Hickel, Reinhard	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
188	2007	Towards new drugs formulations: Gentamicin-anionic clay as nanohybrids	Caija, Gabriela; Niiyama, Hiroo; CiobanU, Gabriela; et al.	Materials Science	Polymer, silicates	Synthesis of new nanohybrids/materials	OMCNH
189	2007	Lanthanide-based lamellar nanohybrids: The case of erbium	Karmaoui, Mohamed; Ferreira, Rute A. Sa; Carlos, Luis D.; et al.	Materials Science	Er2O3, benzoate	Optical imaging and applications	OMCNH
190	2007	Low-voltage-driven pentacene thin-film transistor with an organic-inorganic nanohybrid dielectric	Lee, Kwang H.; Choi, Jeong-M.; Im, Seongil; et al.	Physics	Aluminum oxide, indium-tin-oxide	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
191	2007	New organic-inorganic nanohybrids via ring opening polymerization of (di)lactones initiated by functionalized polyhedral oligomeric silsesquioxane	Goffin, Anne-Lise; Duquesne, Emmanuel; Moins, Sebastien; et al.	Polymer Science	(di)lactones, polyhedral oligomeric silsesquioxane	Crystallography and polymer crystallization	OMCNH
192	2007	Comparative in vitro and in vivo studies using a bioactive poly(epsilon-caprolactone)-organosiloxane nanohybrid containing calcium salt	Yoo, Jeong Joon; Lee, Jong Eun; Kim, Hee Joong; et al.	Engineering; Materials Science	poly(epsilon-caprolactone), organosiloxane, calcium salts	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
193	2007	Preparation of nanohybrid solid-state electrolytes with liquidlike Mobilities by solidifying ionic liquids with silica particles	Shimano, Satoshi; Zhou, Haoshen; Honma, Itaru	Chemistry; Materials Science	Silica, 1-Butyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide ([BMIm][TFSI])	Semiconductors/superconductors/conductive materials	MMNH
194	2007	A nanohybrid membrane with lipid bilayer-like properties utilized as a conductimetric saccharin sensor	Chalkias, Nikolaos G.; Giannelis, Emmanuel P.	Biophysics; Biotechnology & Applied Microbiology; Chemistry; Electrochemistry; Science & Technology - Other Topics	N/A	N/A	N/A
195	2007	New nanohybrid materials for biophotonics	Sajti, C. L.; Giorgio, S.; Khodorkovsky, V.; et al.	Materials Science; Physics	ZnO, Tetramethylrhodamine B isothiocyanate, Rhodamine B	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
196	2007	Anticancer drug-inorganic nanohybrid and its cellular interaction	Kim, Ju Young; Choi, Soo-Jin; Oh, Jae-Min; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Methotrexate, LDH(Mg, Al)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
197	2007	Nanohybrid material of bilateral switch based on diarylethene	Zou, Ying; Xiao, Shuzhang; Yi, Tao; et al.	Chemistry	photochromic cationic diarylethene, MnPS3	Optical imaging and applications	OMCNH
198	2007	Surface dyeability of cotton and nylon fabrics coated with a novel porous silk fibroin/silica nanohybrid	Li, Wenbin; Zou, Lingli; Zhou, Xingpin; et al.	Polymer Science	fibroin (porous silk fibrom), silica	Synthesis of new nanohybrids/materials	OMCNH
199	2007	Chromonic/Silica nanohybrids: Synthesis and macroscopic alignment	Hara, Mitsuo; Nagano, Shusaku; Mizoshita, Norihiro; et al.	Chemistry; Materials Science	chromonic lyotropic liquid crystals, silica	Optical imaging and applications	MMNH
200	2007	Effect of acidic degradation products of poly(lactic-co-glycolic)acid on the apatite-forming ability of poly(lactic-co-glycolic)acid-siloxane nanohybrid material	Rhee, Sang-Hoon; Lee, Seung Jin	Engineering; Materials Science	poly(lactic-co-glycolic) acid, siloxane	Synthesis of new nanohybrids/materials	OMCNH

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201	2007	How can nanohybrids enhance polyester/sepiolite nanocomposite properties?	Duquesne, Emmanuel; Moins, Sebastien; Alexandre, Michael; et al.	Polymer Science	Sepiolite, poly(epsilon-caprolactone)	Crystallography and polymer crystallization	OMCNH
202	2007	Novel looped enzyme-polyamidoamine dendrimer nanohybrids used as biosensor matrix	Zeng, Yun-Long; Huang, Hao-Wen; Jiang, Jian-Hui; et al.	Chemistry	horseradish peroxidase, polyamidoamine	Sensors/biosensors/electrochemical sensors	OMCNH
203	2007	Structural evolution of self-assembling nanohybrid thin films from functionalized urea precursors	Karatchevtseva, Inna; Cassidy, David J.; Man, Michel Wong Chi; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
204	2007	Silica-based nanohybrids containing dipyrindine, urethan, or urea derivatives	Cousinie, Sandra; Gressier, Marie; Alphonse, Pierre; et al.	Chemistry; Materials Science	organosilanes, silica	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
205	2007	Nanohybrid kaolinite-based materials obtained from the interlayer grafting of 3-aminopropyltriethoxysilane and their potential use as electrochemical sensors	Tonle, Ignas K.; Diaco, Thomas; Ngameni, Emmanuel; et al.	Chemistry; Materials Science	kaolinite, 3-aminopropyltriethoxysilane	Sensors/biosensors/electrochemical sensors	OMCNH
206	2008	Nanohybrid carbon film for electrochemical detection of SNPs without hybridization or labeling	Kato, Dai; Sekioka, Naoyuki; Ueda, Akio; et al.	Chemistry	SWNT, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
207	2008	Layered inorganic/enzyme nanohybrids with selectivity and structural stability upon interacting with biomolecules	Chen, Guo-Jing; Yen, Ming-Cheng; Wang, Jen-Ming; et al.	Biochemistry & Molecular Biology; Chemistry	Montmorillonite, enzymes	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
208	2008	Spongy gel-like layered double hydroxide-alkaline phosphatase nanohybrid as a biosensing material	Geraud, Erwan; Prevot, Vanessa; Forano, Claude; et al.	Chemistry	Mg-Al LDH, alkaline phosphatase	Sensors/biosensors/electrochemical sensors	MMNH
209	2008	Elaboration of nanohybrid materials by photopolymerisation of 3,4-ethylenedioxythiophene on TiO2	Goubard, Fabrice; Aubert, Pierre-Henri; Boukerma, Kada; et al.	Chemistry	poly(3,4-ethylene dioxithiophene), TiO2	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
210	2008	Organic-inorganic nanohybrids through the direct tailoring of semiconductor nanocrystals with conjugated polymers	Lin, Zhiqun	Chemistry	Conjugated oligomers, conjugated polymers, nanocrystal	Semiconductors/superconductors/conductive materials	OMCNH
211	2008	Oligomeric alkoxyxilanes with cage-like hybrids as cores: Designed precursors of nanohybrid materials	Kuge, Hideki; Hagiwara, Yoshiaki; Shimojima, Atsushi; et al.	Chemistry	SWNT, porphyrin, Poly[(vinylbenzyl)trimethyl ammonium chloride	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
212	2008	A novel soluble Tin(IV) porphyrin modified single-walled carbon nanotube nanohybrid with light harvesting properties	Ren, Dong-Mei; Guo, Zhen; Du, Feng; et al.	Chemistry	SWNT, Tin(IV) porphyrin	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
213	2008	Characteristics of nanohybrid coating films synthesized from colloidal silica and organoalkoxyxilanes by sol-gel process	Na, Moonkyong; Park, Hoyyul; Kang, Dongpil; et al.	Physics	Silica, Organoalkoxyxilane	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH

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214	2008	Photoalignment and patterning of a chromonic-silica nanohybrid on photocrosslinkable polymer thin films	Hara, Mitsuo; Nagano, Shusaku; Kawatsuki, Nobuhiro; et al.	Chemistry; Materials Science	chromonic, silica	Synthesis of new nanohybrids/materials	MMNH
215	2008	Synthesis and characterisation of carboxylate-terminated silica nanohybrid powders and thin films	Arrachart, Guilhem; Karatchevtseva, Inna; Cassidy, David J.; et al.	Chemistry; Materials Science	carboxylate, silica	Synthesis of new nanohybrids/materials	OMCNH
216	2008	Nanohybrids via a polycation-based nanoemulsion method for dual-mode detection of human mesenchymal stem cells	Seo, Sung-Baek; Yang, Jaemoon; Lee, Eun-Sook; et al.	Chemistry; Materials Science	polycationic polyethylenimine, magnetic nanocrystals	Sensors/biosensors/electrochemical sensors	OMCNH
217	2008	Preparation and characterization of polyimide/fluorinated silicate nanohybrid thin films with low refractive indices	Han, Yulai; Wakita, Junji; Kuroki, Shigeki; et al.	Polymer Science	magnesium organophyllosilicate clay	Biomaterials	OMCNH
218	2008	Fluorescent photoswitchable nanohybrids based on photochromism	Hu, Zhenkun; Zhang, Qing; Xue, Minzhao; et al.	Chemistry; Physics	diarylethene, 1,2-bis(2-methyl-1-benzo-thiophene-3-yl) perfluorocyclopentene (BTF6), perylenedicarboxylic acid bis(2-methylpropyl) ester (C.I. solvent green 5, SG5) polyester, hydroxyapatite	Optical imaging and applications	OMCNH
219	2008	Nano-Hybrid Material Formation on Polymer Materials by Versatile Inorganic Coatings and Its Biomaterial Function	Watanabe, Junji; Akashi, Mitsuru	Polymer Science		Biomaterials	OMCNH
220	2008	Nano-hybrid polymers containing polyhedral oligosilsesquioxanes (POSS)	Janowski, Bartlomiej; Pielichowski, Krzysztof	Polymer Science	N/A	N/A	N/A
221	2008	Zr(HPO4)(2) based organic/inorganic nanohybrids as new proton conductors	Xu, Zhi Ping; Jin, Yonggang; da Costa, Joe C. Diniz; et al.	Chemistry; Physics	sulfanilic acid, alpha-Zr(HPO4)(2)	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
222	2008	Electrically stable low voltage ZnO transistors with organic/inorganic nanohybrid dielectrics	Cha, Sung Hoon; Oh, Min Suk; Lee, Kwang H.; et al.	Physics	ZnO, AlO, TiO, Polymer	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
223	2008	Preparation of layered organic-inorganic nanohybrid thin films of molybdenum trioxide with polyaniline derivatives for aldehyde gases sensors of several tens ppb level	Itoh, Toshio; Matsubara, Ichiro; Shin, Woosuck; et al.	Chemistry; Electrochemistry; Instruments & Instrumentation	molybdenum trioxide, polyaniline	Sensors/biosensors/electrochemical sensors	OMCNH
224	2008	Intermolecular interaction-induced hierarchical transformation in 1D nanohybrids: Analysis of conformational changes by 2D correlation Spectroscopy	Park, Ho Seok; Choi, Yeong Suk; Jung, Young Mee; et al.	Chemistry	N/A	N/A	N/A

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225	2008	Estimation of phase separation behavior in nanohybrids by thermal and dielectric analyses	Min, Sung-Kyu; Park, Jae-Mann; Song, Ki-Tae; et al.	Chemistry	methyl trimethoxysilane (MTMS), bis(1,2-trimethoxysilyl)ethane (BTMSE)	Semiconductors/superconductors/conductive materials	OMCNH
226	2008	The effect of temperature on the viscoelastic properties of nano-hybrid composites	Papadogiannis, D. Y.; Lakes, R. S.; Papadogiannis, Y.; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
227	2008	Influence of light energy and power density on the microhardness of two nanohybrid composites	Gritsch, Kerstin; Souvannasot, Sourasith; Schembri, Catherine; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
228	2008	Noncovalently modified carbon nanotubes with carboxymethylated chitosan: A controllable donor-acceptor nanohybrid	Long, Dewu; Wu, Guozhong; Zhu, Guanglai	Chemistry	MWNT, carboxymethylated chitosan	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
229	2008	Design of nanohybrid and nanoporous materials through self-assembly of organosilane molecules	Shimojima, Atsushi	Materials Science	Siloxane, silica	Synthesis of new nanohybrids/materials	OMCNH
230	2008	Spirobenzopyran-based photochromic nanohybrids with photoswitchable fluorescence	Hu, Zhenkun; Zhang, Qing; Xue, Minzhao; et al.	Materials Science; Optical	Spirobenzopyran, chrome	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
231	2008	Laponite-based nanohybrid for enhanced solubility and controlled release of itraconazole	Jung, Hyun; Kim, Hyun-Mi; Bin Choy, Young; et al.	Pharmacology & Pharmacy	Laponite (layered aluminosilicate), itraconazole (drug)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
232	2008	A triantennary dendritic galactoside-capped nanohybrid with a ZnS/CdSe nanoparticle core as a hydrophilic, fluorescent, multivalent probe for metastatic lung cancer cells	Chen, Chien-Tien; Munot, Yogesh S.; Salunke, Santosh B.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	tri-antennary, galactoside-capped gallamide dendritic, CdSe, ZnS	Delivery Carriers, and Controlled Release of Drugs/Compounds	MMNH
233	2008	Structure and photoluminescence of di-amidosil nanohybrids incorporating europium triflate	Nunes, S. C.; Bermudez, V. de Zea; Cybinska, J.; et al.	Chemistry; Materials Science; Metallurgy & Metallurgical Engineering	di-amide cross-linked alkyl/siloxane, Eu ³⁺	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
234	2008	Fabrication of alternate stacking MnO ₂ /MoS ₂ layered nanohybrid by a sonochemistry technology	Su Zhi-Kui; Cui Yan-Hua; Tang Xiu-Hua; et al.	Chemistry	MnO ₂ , MoS ₂	Synthesis of new nanohybrids/materials	MMNH
235	2008	Synthesis and photophysical properties of core-shell Eu(DBM)(3)phen/TiO ₂ nanohybrids	Qin, Weiping; Zhao, Dan; Zhang, Jisen; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	TiO ₂ , tris(dibenzoylmethanato)phenanthroline	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
236	2008	The synthesis of superparamagnetic Pt/Ni nanohybrids in direct micelles of cationic surfactants	Mirgorod, Yu. A.; Efimova, N. A.	Chemistry	lyotropic silica, chromonic	Synthesis of new nanohybrids/materials	MMNH
237	2008	Photoinduced formation of polythiophene/TiOP ₂ nanohybrid heterojunction films for Energy/Electron transfer, donor/acceptor, Solar/Fuel cells	Otsuka, Yasuhide; Okamoto, Yuko; Akiyama, Hitomi Y.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	polythiophene, TiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH

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238	2008	Nanohybrid shish-kebabs: Supercritical CO ₂ -induced PE epitaxy on carbon nanotubes	Zhang, Zhiwei; Xu, Qun; Chen, Zhimin; et al.	Polymer Science	SWNT, MWNT, supercritical CO ₂ antisolvent-induced polymer epitaxy	Synthesis of new nanohybrids/materials	OMCNH
239	2008	Synthesis of near-infrared responsive gold nanorod/PNIPAAm core/shell nanohybrids via surface initiated ATRP for smart drug delivery	Wei, Qingshan; Ji, Jian; Shen, Jiacong	Polymer Science	N-isopropylacrylamide (NIPAAm) on gold nanorods (Au NRs)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
240	2008	Near infrared luminescence behavior of organic-inorganic nanohybrid films containing Er ³⁺ doped YbPO ₄ nanoparticles	Lim, Mi Ae; Jana, Sunirmal; Il Seok, Sang; et al.	Materials Science; Physics	YbPO ₄ , Er ³⁺	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
241	2008	Mechanical properties of alumina-zirconia-Nb micro-nano-hybrid composites	Bartolome, Jose F.; Gutierrez-Gonzalez, C. F.; Torrecillas, Ramon	Materials Science	Al ₂ O ₃ , ZrO, Nb	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	MMNH
242	2008	Anticancer drug-layered hydroxide nanohybrids as potent cancer chemotherapy agents	Choi, Soo-Jin; Oh, Jae-Min; Choy, Jin-Ho	Chemistry; Physics	Methotrexate (anticancer drug), LDH	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
243	2008	Nanohybrids of edible dyes intercalated in ZnAl layered double hydroxides	Choy, Jin-Ho; Kim, Yun-Kyung; Son, You-Hvvan; et al.	Chemistry; Physics	Edible dyes [Allura (R) Red AC (C ₁₈ H ₁₄ N ₂ O ₈ S ₂₂ -), Sunset Yellow FCF (C ₁₆ H ₁₀ N ₂ O ₇ S ₂₂ -), and Brilliant Blue FCF (C ₃₇ H ₃₄ N ₂ O ₉ S ₃₂ -)], ZnAl LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
244	2008	Clay-chitosan-gold nanoparticle nanohybrid: Preparation and application for assembly and direct electrochemistry of myoglobin	Zhao, Xiaojuan; Mai, Zhibin; Kang, Xinhuang; et al.	Electrochemistry	Clay, chitosan, Au	Biomaterials	MMNH
245	2008	Fluorescent magnetic nanohybrids as multimodal imaging agents for human epithelial cancer detection	Yang, Jaemoon; Lim, Eun-Kyung; Lee, Hong Jae; et al.	Engineering; Materials Science	MnFe ₂ O ₄ , pyrene	Optical imaging and applications	OMCNH
246	2008	A novel nanohybrid of daunomycin and single-walled carbon nanotubes: photophysical properties and enhanced electrochemical activity	Lu, Yanhong; Yang, Xiaoying; Ma, Yanfeng; et al.	Biotechnology & Applied Microbiology	SWNT, daunomycin	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
247	2008	Chlorinated polyethylene nanocomposites using PCL/clay nanohybrid masterbatches	Benali, Samira; Peeterbroeck, Sophie; Brocorens, Patrick; et al.	Polymer Science	poly(E-caprolactone), montmorillonite	Crystallography and polymer crystallization	OMCNH
248	2008	Sol-gel nanohybrid materials prepared via supramolecular organization	Katagiri, Kiyofumi	Materials Science	Organoalkoxysilanes, titania	Synthesis of new nanohybrids/materials	OMCNH
249	2008	Dielectric and conduction properties of polyimide/silica nano-hybrid films	Zhang, Ming-Yan; Zeng, Shu-Jin; Fan, Yong; et al.	Materials Science; Polymer Science	Polyimide, silica	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
250	2008	In vitro sustained release of LMWH from MgAl-layered double hydroxide nanohybrids	Gu, Zi; Thomas, Anita C.; Xu, Zhi Ping; et al.	Chemistry; Materials Science	heparin, Mg-Al-Cl LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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251	2008	The polyurethane/SiO ₂ nano-hybrid membrane with temperature sensitivity for water vapor permeation	Zhou, Hu; Chen, Yi; Fan, Haojun; et al.	Engineering; Polymer Science	N/A	N/A	N/A
252	2008	Intensity-dependent enhancement of saturable absorption in PbS-Au(4) nanohybrid composites: Evidence for resonant energy transfer by Auger recombination	Elim, Hendry I.; Ji, Wei; Yang, Jian; et al.	Physics	PbS-Au ₄	Semiconductors/superconductors/conductive materials	MMNH
253	2008	Supramolecular self-assembly of amphiphiles on carbon nanotubes: A versatile strategy for the construction of CNT/metal nanohybrids, application to electrocatalysis	Nicolas; Surendran, Geetarani; Remita, Hynd; et al.	Chemistry	MWNT, nitrilotriacetic acid, pyridinium, Pd	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
254	2008	CrAsH-quantum dot nanohybrids for smart targeting of proteins	Genin, Emilie; Carion, Olivier; Mahler, Benoit; et al.	Chemistry	CrAsH, Cys-tagged proteins, quantum dots	Delivery Carriers, and Controlled Release of Drugs/Compounds	MMNH
255	2008	Characterizations of interlayer organic-inorganic nanohybrid of molybdenum trioxide with polyaniline and poly(o-anisidine)	Itoh, Toshio; Matsubara, Ichiro; Shin, Woosuck; et al.	Materials Science	molybdenum trioxide, polyaniline, poly(o-anisidine)	Synthesis of new nanohybrids/materials	OMCNH
256	2008	Development of 3d micro-nano hybrid patterns using anodized aluminum and micro-indentation	Shin, Hong Gue; Kwon, Jong Tae; Seo, Young Ho; et al.	Materials Science; Physics	N/A	N/A	N/A
257	2008	Two-year clinical evaluation of ormocer, nanohybrid and nanofill composite restorative systems in posterior teeth	Mahmoud, Salah Hasab; El-Embaby, Abeer E.; AbdAllah, Asmaa Mohamed; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
258	2008	Preparation and physical properties of transparent organic-inorganic nanohybrid materials based on urethane dimethacrylate	Daimatsu, Kazuki; Sugimoto, Hideki; Nakanishi, Eiji; et al.	Polymer Science	Silica, acrylic resin, urethane dimethacrylate	Synthesis of new nanohybrids/materials	OMCNH
259	2008	Direct electrochemistry and electrocatalysis of myoglobin immobilized on gold nanoparticles/carbon nanotubes nanohybrid film	Cao, Wei; Wei, Cuimei; Hu, Jingbo; et al.	Chemistry; Electrochemistry	MWNT, Au, myoglobin	Sensors/biosensors/electrochemical sensors	MMNH
260	2008	Characterisation of nanohybrids of porphyrins with metallic and semiconducting carbon nanotubes by EPR and optical spectroscopy	Cambre, Sofie; Wenseleers, Wim; Culin, Jelena; et al.	Chemistry; Physics	SWNT, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
261	2008	Mesoporous iron oxide-layered titanate nanohybrids: Soft-chemical synthesis, characterization, and photocatalyst application	Kim, Tae Woo; Ha, Hyung-Wook; Paek, Mi-Jeong; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	FeO ₆ , layered titanate	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
262	2008	ZnO-based low-voltage inverter with quantum-well-structured nanohybrid dielectric	Cha, Sung Hoon; Oh, Min Suk; Lee, Kwang H.; et al.	Engineering	AlOx/TiOx/AlOx layered, ZnO	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH

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263	2008	Properties of nano-hybrid sol-gel coating films synthesized with colloidal silica and organoalkoxy silanes	Na, Moonkyong; Park, Hoyyul; Ahn, Myeongsang	Materials Science	organoalkoxy silanes, silica	Catalytic/Photocatalytic/Electro catalytic applications	OMCNH
264	2008	Fe(3)O(4)@Polypyrrole Core-Shell Nanohybrid for Efficient DNA Retrieval	Park, Dae-Hwan; Oh, Jea-Min; Shul, Yong-Gun; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Fe(3)O(4), polypyrrole	Biomaterials	OMCNH
265	2008	Gadolinium (III) Diethylenetriamine Pentaacetic Acid/Layered Double Hydroxide Nanohybrid as Novel T(1)-Magnetic Resonant Nanoparticles	Kim, Su Yeon; Oh, Jae-Min; Lee, Jin Seong; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	gadolinium (III) diethylenetriamine pentaacetic acid, LDH	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
266	2008	Near infrared luminescence properties of nanohybrid film prepared from LaPO4:Er3+/LaPO4 core/shell nanoparticles and silica-based resin	Lim, Mi Ae; Il Seok, Sang; Chung, Woon Jin; et al.	Materials Science; Optical	LaPO4, Er3+	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
267	2008	Organic-Inorganic Nanohybrids via Directly Grafting Gold Nanoparticles onto Conjugated Copolymers through the Diels-Alder Reaction	Liu, Xiaofeng; Zhu, Mei; Chen, Songhua; et al.	Chemistry; Materials Science	poly-p-phenyleneethynylene, Au	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
268	2008	Fabrication of surface-structure controlled photopatterns upon transparent silica-acryl nanohybrid films with enhanced thermal and mechanical properties	Kang, Dong Jun; Han, Dong Hee; Kang, Dong Pil; et al.	Optical	Silica, acryl	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
269	2008	Shear enhanced interfacial interaction between carbon nanotubes and polyethylene and formation of nanohybrid shish-kebabs	Liang, Si; Wang, Ke; Chen, Daiqiang; et al.	Polymer Science	MWNT, polyethylene	Synthesis of new nanohybrids/materials	OMCNH
270	2008	Controlled Release Compound Based on Metanilate-Layered Double Hydroxide Nanohybrid	Hussein, Mohd Zobir; Nasir, Norashikin Mat; Yahaya, Asmah H. J.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Metanilate, Zn-Al, Mg-Al, Ca-Al	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
271	2008	Novel Nanohybrids Derived from the Attachment of FePt Nanoparticles on Carbon Nanotubes	Tsoufis, Theodoros; Tomou, Aphrodite; Gournis, Dimitrios; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	MWNT, FePt	Synthesis of new nanohybrids/materials	CMNH
272	2008	Mechanism analysis of improved corona-resistant characteristic in polyimide/TiO(2) nanohybrid films	Zha, Jun-Wei; Song, Hong-Tao; Dang, Zhi-Min; et al.	Physics	Polyimide, TiO2	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
273	2008	Thermo(oxidative) stability of novel polyurethane/POSS nanohybrid elastomers	Janowski, Bartlomiej; Pielichowski, Krzysztof	Chemistry	N/A	N/A	N/A
274	2008	Nanohybrid materials from interlayer functionalization of kaolinite. Application to the electrochemical preconcentration of cyanide	Letaief, Sadok; Tonle, Ignas K.; Diaco, Thomas; et al.	Chemistry; Materials Science, Mineralogy	Polyimide, silica	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
275	2008	Nanohybrid PVA/ZrO(2) and PVA/Al(2)O(3) electrospun mats	Lamastra, F. R.; Bianco, A.; Meriggi, A.; et al.	Engineering	poly(vinyl alcohol), ZnO, AlO	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
276	2008	A Nano-Hybrid of Molybdenum Oxide Intercalated by Dithiocarbamate as an Oxidation Catalyst	Afsharpour, Maryam; Mahjoub, Alireza; Amini, Mostafa M.	Polymer Science	Molybdenum Oxide, Dithiocarbamate	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
277	2008	SYNTHESIS AND ELECTRO-OPTIC PROPERTY OF INTERCALATION POLYIMIDE AND NANOHYBRID	Yang, D. Y.; Qiu, F. X.; Cao, G. R.	Optical; Physics	alkylsilane, Alumina, Titania	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	MMNH
278	2008	Monolayer-precision fabrication of mixed-organic-inorganic nanohybrid superlattices for flexible electronic devices	Lee, Byoung H.; Lee, Kwang H.; Im, Seongil; et al.	Materials Science; Physics	Kaolinite, dimethylsulfoxide	Sensors/biosensors/electrochemical sensors	OMCNH
279	2008	Electrochemical Synthesis and Photovoltaic Property of Cadmium Sulfide-Polybithiophene Interdigitated Nanohybrid Thin Films	Xi, Dongjuan; Zhang, Han; Furst, Stephen; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Cadmium Sulfide, Polybithiophene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
280	2008	Structure of Organic-Inorganic Nanohybrids Incorporating Titanium(IV) Oxoalkoxyacrylate Nanoclusters: A SANS Study	Karatchevtseva, Inna; Heinemann, Andre; Hartley, Veronica; et al.	Chemistry	Polymethyl methacrylate, TiO ₂	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
281	2009	Cell proliferation and controlled drug release studies of nanohybrids based on chitosan-g-lactic acid and montmorillonite	Depan, Dilip; Kumar, Annamalai Pratheep; Singh, Raj Pal	Engineering; Materials Science	chitosan-g-lactic acid, montmorillonite	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
282	2009	'Clicked' magnetic nanohybrids with a soft polymer interlayer	He, Hongkun; Zhang, Yu; Gao, Chao; et al.	Chemistry	MWNT, Fe ₃ O ₄ , Poly(acrylic acid), silica	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
283	2009	Efficient fluorescence resonance energy transfer in highly stable liposomal nanohybrid cerasome	Dai, Zhifei; Tian, Wenjie; Yue, Xiuli; et al.	Chemistry	cyanine dyes, silica, cerasome forming lipids	Biomaterials	OMCNH
284	2009	Sandwich nanohybrid of single-walled carbon nanohorns-TiO ₂ -porphyrin for electrocatalysis and amperometric biosensing towards chloramphenicol	Tu, Wenwen; Lei, Jianping; Ding, Lin; et al.	Chemistry	SW nanohorns, TiO ₂ , Porphyrin	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
285	2009	Carbon Nanotube-Acridine Nanohybrids: Spectroscopic Characterization of Photoinduced Electron Transfer	Mackiewicz, Nicolas; Delaire, Jacques A.; Rutherford, A. William; et al.	Chemistry	SWNT, 9-phenyl acridine, 10-methyl-9-phenyl acridinium	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
286	2009	Self-Assembly of Mn-Doped ZnS Quantum Dots/Octa(3-aminopropyl)octasilsequioxane Octahydrochloride Nanohybrids for Optosensing DNA	He, Yu; Wang, He-Fang; Yan, Xiu-Ping	Chemistry	Mn, ZnS Quantum Dots, Octa(3-aminopropyl)octasilsequioxane Octahydrochloride	Biomaterials	MMNH
287	2009	The Effect of Water Storage, Elapsed Time and Contaminants on the Bond Strength and Interfacial Polymerization of a Nanohybrid Composite	Perriard, Jean; Lorente, Maria Cattani; Scherrer, Susanne; et al.	Dentistry, Oral Surgery & Medicine	Cup-shaped nanocarbons, porphyrins	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH

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288	2009	Preparation and Theophylline Delivery Applications of Novel PMAA/MWCNT-COOH Nanohybrid Hydrogels	Zhang, Chang-Hu; Luo, Yan-Ling; Chen, Ya-Shao; et al.	Engineering; Materials Science; Polymer Science	MWNT, Theophylline, poly(methacrylic acid)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
289	2009	Dynamic Mechanical Analysis of a Hybrid and a Nanohybrid Light-Cured Dental Resin Composite	Sideridou, Irini D.; Karabela, Maria M.; Spyroudi, Crysa S.	Engineering; Materials Science; Polymer Science	N/A	N/A	N/A
290	2009	Physical Properties of a Hybrid and a Nanohybrid Dental Light-Cured Resin Composite	Sideridou, Irini D.; Karabela, Maria M.; Micheliou, Christina N.; et al.	Engineering; Materials Science; Polymer Science	N/A	N/A	N/A
291	2009	A novel core-shell structured magnetic organic-inorganic nanohybrid involving drug-intercalated layered double hydroxides coated on a magnesium ferrite core for magnetically controlled drug release	Zhang, Hui; Pan, Dengke; Zou, Kang; et al.	Chemistry; Materials Science	diclofenac, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
292	2009	Nanohybrid materials from the grafting of imidazolium cations on the interlayer surfaces of kaolinite. Application as electrode modifier	Tonle, Ignas K.; Letaief, Sadok; Ngameni, Emmanuel; et al.	Chemistry; Materials Science	imidazolium, kaolinite	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
293	2009	Morphological modulation of optoelectronic properties of organic-inorganic nanohybrids prepared with a one-step co-fed chemical vapor deposition polymerization process	Hsiao, Chang-Tao; Lu, Shih-Yuan	Chemistry; Materials Science	poly(p-phenylene vinylene)-CdS	Optical imaging and applications	OMCNH
294	2009	Functional nanohybrids self-assembled from amphiphilic calix[6]biscrowns and noble metals	Guan, Bing; Liang, Qing; Zhu, Yuan; et al.	Chemistry; Materials Science	SWNT, AgNO ₃ , HAuCl ₄ , terminal amino calix[6]crowns	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
295	2009	Silver-Polymer Nanohybrids Prepared by Microemulsion Polymerization	Donescu, Dan; Nistor, Cristina Lavinia; Purcar, Violeta; et al.	Science & Technology - Other Topics; Materials Science; Physics	Ag, poly(styrene), poly(butyl acrylate), poly(methyl methacrylate)	Synthesis of new nanohybrids/materials	OMCNH
296	2009	Optical and Thermal Properties of Organo-silica/Polyimide Nanohybrids Derived from Polysiloxazane Copolymers	Yorifuji, Daisuke; Matsumura, Akiko; Aoki, Tomoko; et al.	Polymer Science	silica, polyimide	Optical imaging and applications	OMCNH
297	2009	Photoinduced electron transfer of nanohybrids of carbon nanohorns with amino groups and tetrabenzoic acid porphyrin in aqueous media	Sandanayaka, Atula S. D.; Ito, Osamu; Tanaka, Takatsugu; et al.	Chemistry	Carbon nanohorns, tetrabenzoic acid porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
298	2009	Photoluminescence of CdTe nanocrystals modulated by methylene blue and DNA. A label-free luminescent signaling nanohybrid platform	Shen, Jiang-Shan; Yu, Tao; Xie, Jian-Wei; et al.	Chemistry; Physics	Thioglycolic acid, CdTe, methylene blue	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
299	2009	Size effect of TiO ₂ -SiO ₂ nano-hybrid particle	Ohno, Tomoya; Tagawa, Shouichiroh; Itoh, Hidenobu; et al.	Materials Science	TiO ₂ , SiO ₂	Catalytic/Photocatalytic/Electro catalytic applications	MMNH

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300	2009	Synthesis and characterization of (zinc-layered-gallate) nanohybrid using structural memory effect	bin Hussein, Mohd Zobir; Ghotbi, Mohammad Yeganeh; Yahaya, Asmah Hj; et al.	Materials Science	calcined zinc hydroxide nitrate LDH, gallate	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
301	2009	Preparation of a new nano-layered materials and organic-inorganic nano-hybrid materials, Zn-Si LDH	Saber, Osama; Tagaya, Hideyuki	Chemistry; Materials Science	Organic acids, Zn-Si LDH	Synthesis of new nanohybrids/materials	OMCNH
302	2009	Origin of ultralow permittivity in polyimide/mesoporous silicate nanohybrid films with high resistivity and high breakdown strength	Dang, Zhi-Min; Ma, Lan-Jie; Zha, Jun-Wei; et al.	Physics	Mesoporous silicate, polyimide	Crystallography and polymer crystallization	OMCNH
303	2009	Two-dimensional nanohybridization of gold nanorods and polystyrene colloids	Yi, Dong Kee; Lee, Jin-Hyon; Rogers, John A.; et al.	Physics	Polystyrene, Au nanorods	Optical imaging and applications	OMCNH
304	2009	Incorporation of active nano-hybrids into poly(epsilon-caprolactone) for local controlled release: Antifibrinolytic drug	Tammaro, L.; Costantino, U.; Nocchetti, M.; et al.	Chemistry; Materials Science; Mineralogy	poly(epsilon-caprolactone), trans-4-(aminomethyl)cyclohexanecarboxylate, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
305	2009	Controlled-release of Avermectin from Organically Modified Hydrotalcite-like Compound Nanohybrids	Qiu Depeng; Li Yonghai; Fu Xiyang; et al.	Chemistry	sodium dodecyl sulfate, hydrotalcite, avermectin	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
306	2009	Fullerene nanohybrid metal oxide Ultrathin films, electronics	Yang, Do-Hyeon; Park, Chul Soon; Min, Ji Hye; et al.	Materials Science; Physics	Fullerene, metal alkoxide	Delivery Carriers, and Controlled Release of Drugs/Compounds	CMNH
307	2009	Controlled Release Formulation of Agrochemical Pesticide Based on 4-(2,4-dichlorophenoxy)butyrate Nanohybrid	Bin Hussein, Mohd Zobir; Hashim, Norhayati; Yahaya, Asmah Hj; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Zn-Al LDH, 4-(2,4-dichlorophenoxy)butyrate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
308	2009	Preparation and characterisation of polyacrylamide/MWCNTs nanohybrid hydrogels with microporous structures	Luo, Y. L.; Zhang, C. H.; Chen, Y. S.; et al.	Materials Science	MWNT, polyacrylamide	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
309	2009	Time resolved emission studies of Ag-adenine-templated CdS (Ag/CdS) nanohybrids	Kumar, Anil; Chaudhary, Vidhi	Science & Technology - Other Topics; Materials Science; Physics	Ag, adenine, CdS	Optical imaging and applications	MMNH
310	2009	Transparent Photo-Stable Complementary Inverter with an Organic/Inorganic Nanohybrid Dielectric Layer	Oh, Min Suk; Lee, Kimoon; Lee, Kwang H.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	ZnO, pentacene	Transparent and conductive films	OMCNH
311	2009	Smart Organic-Inorganic Nanohybrids Based on Amphiphilic Block Copolymer Micelles and Functional Silsesquioxane Nanoparticles	Schumacher, Manuela; Ruppel, Markus; Yuan, Jiayin; et al.	Chemistry; Materials Science	poly(n-butyl acrylate)-block-poly(acrylic acid) block copolymers, diglycidylaminopropyl-functional silsesquioxane	Biomaterials	OMCNH
312	2009	Synthesis and characterization of indole-3-butyric acid/hydrotalcite-like compound nanohybrids	Qiu, De-peng; Hou, Wan-guo	Chemistry	indole-3-butyric acid/hydrotalcite	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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313	2009	Sol-gel synthesis of compact nanohybrid structures based on silica gels	Khimich, N. N.; Zdravkov, A. V.; Koptelova, L. A.; et al.	Materials Science	N/A	N/A	N/A
314	2009	Amperometric hydrogen peroxide biosensor based on the immobilization of HRP on DNA-silver nanohybrids and PDDA-protected gold nanoparticles	Ma, Liping; Yuan, Ruo; Chai, Yaqin; et al.	Biochemistry & Molecular Biology; Chemistry	DNA-Ag, poly(diallyldimethylammonium chloride)-Au	Sensors/biosensors/electrochemical sensors	OMCNH
315	2009	Fabrication of polymer micro/nano-hybrid lens array by microstructured anodic aluminum oxide (AAO) mold	Lee, Bong-Kee; Cha, Kyung Je; Kwon, Tai Hun	Engineering; Science & Technology - Other Topics; Optical; Physics	N/A	N/A	N/A
316	2009	Fabrication of PDMS micro/nano hybrid surface for increasing hydrophobicity	Kim, Dong Sung; Lee, Bong-Kee; Yeo, Jihoon; et al.	Engineering; Science & Technology - Other Topics; Optical; Physics	N/A	N/A	N/A
317	2009	Smart organic-inorganic nanohybrid stars based on star-shaped poly(acrylic acid) and functional silsesquioxane nanoparticles	Schumacher, Manuela; Ruppel, Markus; Kohlbrecher, Joachim; et al.	Polymer Science	poly(acrylic acid) stars, N,N-di(2,3-dihydroxypropyl)3-aminopropyl functional silsesquioxane nanoparticles.	Biomaterials	OMCNH
318	2009	Synthesis and Characterization of Nano-Sized Epoxy Oligosiloxanes for Fabrication of Transparent Nano Hybrid Materials	Yang, Seungcheol; Kim, Jeong Hwan; Jin, Jung Ho; et al.	Polymer Science	N/A	N/A	N/A
319	2009	Performance simulation and analysis of a CMOS/nano hybrid nanoprocessor system	Cabe, Adam C.; Das, Shamik	Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
320	2009	Core-Shell Structures of Silica-Organic Pigment Nanohybrids Visualized by Electron Spectroscopic Imaging	Horiuchi, Shin; Horie, Shinji; Ichimura, Kunihiro	Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
321	2009	Highly Flexible Coaxial Nanohybrids Made from Porous TiO ₂ Nanotubes	Wang, Daoai; Liu, Ying; Wang, Chengwei; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Anatase TiO ₂ , polypyrrole, poly(3-hexylthiophene), CdS, Ni, Au	Semiconductors/superconductors/conductive materials	MMNH
322	2009	Surface modification of P(EMA-co-HEA)/SiO ₂ nanohybrids for faster hydroxyapatite deposition in simulated body fluid?	Valles Lluch, A.; Gallego Ferrer, G.; Monleon Pradas, M.	Biophysics; Chemistry; Materials Science	Poly(ethyl methacrylate-co-hydroxyethyl acrylate), silica	Biomaterials	OMCNH
323	2009	Nanohybrids of Nylon 6 with Multi-Walled Carbon Nanotubes: Solvent-Free Polymerization of epsilon-Caprolactam Under Variable Experimental Conditions	Basiuk, Elena V.; Solis-Gonzalez, Obed A.; Alvarez-Zauco, Edgar; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	MWNT, E-caprolactam, nylon 6	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
324	2009	High-temperature chemical and microstructural transformations of an organic-inorganic nanohybrid captopril intercalated Mg-Al layered double hydroxide	Zhang, Hui; Guo, Shao-Huan; Zou, Kang; et al.	Materials Science	Captopril, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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325	2009	Optical properties of zinc peroxide and zinc oxide multilayer nanohybrid films	Sebok, Daniel; Szabo, Tamas; Dekany, Imre	Chemistry; Materials Science; Physics	N/A	N/A	N/A
326	2009	Mineralization of surfactant functionalized multi-walled carbon nanotubes (MWNTs) to prepare hydroxyapatite/MWNTs nanohybrid	Tan, Qinggang; Zhang, Ke; Gu, Shuying; et al.	Chemistry; Materials Science; Physics	MWNT, hydroxyapatite	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	CMNH
327	2009	Nafion (R)/bio-functionalized montmorillonite nanohybrids as novel polyelectrolyte membranes for direct methanol fuel cells	Hasani-Sadrabadi, Mohammad Mahdi; Dashtimoghadam, Erfan; Majedi, Fatemeh S.; et al.	Electrochemistry; Energy & Fuels	Montmorillonite, nafion	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
328	2009	Molecular layer deposition of ZrO ₂ -based organic-inorganic nanohybrid thin films for organic thin film transistors	Lee, Byoung H.; Im, Kyo K.; Lee, Kwang H.; et al.	Materials Science; Physics	ZrO ₂ , alkylsilane	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
329	2009	Nanohybrid vs. fine hybrid composite in Class II cavities: Clinical results and margin analysis after four years	Kraemer, Norbert; Reinelt, Christian; Richter, Gert; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
330	2009	Magnetorheological Characteristics of Polymer Coated Magnetite Particle Composites With Carbon Nanotube Nanohybrid	Ko, Seung Woo; Hong, Min Ki; Choi, Hyoung Jin; et al.	Engineering; Physics	MWNT, Fe ₃ O ₄	Optical imaging and applications	CMNH
331	2009	LDH-intercalated D-gluconate: Generation of a new food additive-inorganic nanohybrid compound	Ghotbi, Mohammad Yeganeh; bin Hussein, Mohd Zobir; Yahaya, Asmah Hj; et al.	Chemistry; Physics	D-gluconate, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
332	2009	Evaluations of Bioactive Poly(epsilon-Caprolactone)-Organosiloxane Nano-Hybrid as a Material for Bone Repair	Yoo, Jeong Joon; Rhee, Sang-Hoon; Lee, Jae Il; et al.	Cell Biology; Engineering	Poly(epsilon-Caprolactone) Organosiloxane	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
333	2009	pH-Driven synthesis of collagen-silica nanohybrids	Garcia-Valdes, C. J.; Hernandez-Padron, G.; Garcia-Garduno, M. V.; et al.	Polymer Science	Silica, collagen	Synthesis of new nanohybrids/materials	OMCNH
334	2009	Synthesis, Characterization, and Magnetically Controlled Release Behavior of Novel Core-Shell Structural Magnetic Ibuprofen-Intercalated LDH Nanohybrids	Zhang, Hui; Pan, Dengke; Duan, Xue	Chemistry; Science & Technology - Other Topics; Materials Science	ibuprofen (IBU)-intercalated Mg-Al-LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
335	2009	Formation of polymer/carbon nanotubes nano-hybrid shish-kebab via non-isothermal crystallization	Zhang, Ling; Tao, Tao; Li, Chunzhong	Polymer Science	MWNT, polyethylene	Crystallography and polymer crystallization	OMCNH
336	2009	Refractive Index Control and Rayleigh Scattering Properties of Transparent TiO ₂ Nanohybrid Polymer	Elim, Hendry I; Cai, Bin; Kurata, Yu; et al.	Chemistry	TiO ₂ , 2-(3,4-epoxycyclohexyl)ethyltrimethoxysilane	Optical imaging and applications	OMCNH

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337	2009	Preparation and Structural Characterization of Novel Nanohybrids by Cationic 3D Silica Nanoparticles Sandwiched between 2D Anionic Montmorillonite Clay through Electrostatic Attraction	Tseng, Tzu-Fan; Wu, Jeng-Yue	Chemistry; Science & Technology - Other Topics; Materials Science	Silica, montmorillonite	Synthesis of new nanohybrids/materials	MMNH
338	2009	Photoinduced Electron Storage in WO ₃ /TiO ₂ Nanohybrid Material in the Presence of Oxygen and Postirradiated Reduction of Heavy Metal Ions	Zhao, Dan; Chen, Chuncheng; Yu, Cailan; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	WO ₃ , TiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
339	2009	A Study of Asynchronous Design Methodology for Robust CMOS-Nano Hybrid System Design	Chakraborty, Rajat Subhra; Bhunia, Swarup	Computer Science; Engineering; Science & Technology - Other Topics	N/A	N/A	N/A
340	2009	Nanohybrid composite vs. fine hybrid composite in extended Class II cavities: Clinical and microscopic results after 2 years	Kraemer, Norbert; Reinelt, Christian; Garcia-Godoy, Franklin; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
341	2009	Functionalization of silica nanoparticles with 4-isocyanato-4'-(3,3'-dimethyl-2,4-dioxo-azetidino)diphenyl methane, surface chemical reactivity and nanohybrid preparation	Liu, Ying-Ling; Wu, Yen-Hsing; Jeng, Ru-Jong; et al.	Chemistry	4-isocyanato-4'-(3,3'-dimethyl-2,4-dioxo-azetidino)diphenyl methane, silica	Synthesis of new nanohybrids/materials	OMCNH
342	2009	Preparation and Supramolecular Self-Assembly of Amphiphilic Dendron-POSS Nanohybrids	Chang, Gung-Pei; Jeng, Ru-Jong; Dai, Shenghong A.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	urea malonamide dendron, POSS	Synthesis of new nanohybrids/materials	OMCNH
343	2009	Genotoxic Properties of Nylon-6/MWNTs Nanohybrid	Ochoa-Olmos, Omar E.; Montero-Montoya, Regina; Serrano-Garcia, Luis; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	MWNT, nylon 6	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
344	2009	Electrospun poly(epsilon-caprolactone)/Ca-deficient hydroxyapatite nanohybrids: Microstructure, mechanical properties and cell response by murine embryonic stem cells	Bianco, Alessandra; Di Federico, Erica; Moscatelli, Ilana; et al.	Materials Science	poly(epsilon-caprolactone), Ca-deficient hydroxyapatite	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
345	2009	Ionic-Liquid-Assisted Sonochemical Synthesis of Carbon-Nanotube-Based Nanohybrids: Control in the Structures and Interfacial Characteristics	Park, Ho Seok; Choi, Bong Gill; Yang, Seong Ho; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	MWNT, Pt, Pd, Au, Ag, SnOx, FeOx, ZnOx	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
346	2009	Synthesis of Molybdenum Oxide Nanohybrids as Efficient Catalysts in Oxidation of Alcohols	Afsharpour, Maryam; Mahjoub, Alireza; Amini, Mostafa M.	Polymer Science	N/A	N/A	N/A
347	2009	Nanohybrid Resin Composites: Nanofiller Loaded Materials or Traditional Microhybrid Resins?	Moraes, R. R.; Goncalves, L. S.; Lancellotti, A. C.; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A

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348	2009	Synthesis and Characterization of Photoluminescent Eu(III) Coordination Halloysite Nanotube-Based Nanohybrids	Wan, Chaoying; Li, Ming; Bai, Xin; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	methyl methacrylate (MMA), hydroxyethyl methacrylate (HEMA), Eu ³⁺ ,	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
349	2009	Emulsions Stabilized by Carbon Nanotube-Silica Nanohybrids	Shen, Min; Resasco, Daniel E.	Chemistry; Materials Science	SWNT, silica	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
350	2009	Direct Formation of Nanohybrid Shish-Kebab in the Injection Molded Bar of Polyethylene/Multiwalled Carbon Nanotubes Composite	Yang, Jinghui; Wang, Chaoyu; Wang, Ke; et al.	Polymer Science	MWNT, polyethylene	Crystallography and polymer crystallization	OMCNH
351	2009	Correlation of Ultrastructure with Mechanical Properties of Nano-Hybrid Dental Composites	Schmitt, Lena; Lurtz, Claudia; Sternberg, Katrin; et al.	Materials Science	N/A	N/A	N/A
352	2009	The disruption of bacterial membrane integrity through ROS generation induced by nanohybrids of silver and clay	Su, Hong-Lin; Chou, Chih-Cheng; Hung, Da-Jen; et al.	Engineering; Materials Science	Ag, silicate	Antimicrobial/antibacterial applications	MMNH
353	2009	Synthesis and third-order nonlinear optical properties of a multiwalled carbon nanotube-organically modified silicate nanohybrid gel glass	Zheng, Chan; Feng, Miao; Du, Yuhong; et al.	Chemistry; Materials Science	MWNT, silicate	Optical imaging and applications	OMCNH
354	2009	Synthesis and Characterization of Imidacloprid/Hydrotalcite-like Compound Nanohybrids	Qiu Depeng; Hou Wanguo; Xu Jie; et al.	Chemistry	Hydrotalcite, dodecyl sulfate, imidacloprid	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
355	2009	Scratch resistance of a polycarbonate plus organoclay nanohybrid	Arribas, A.; Bermudez, M. -D.; Brostow, W.; et al.	Polymer Science	Polycarbonate, montmorillonite	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
356	2009	Shell-Controlled Photoluminescence in CdSe/CNT Nanohybrids	Si, Hua-Yan; Liu, Cai-Hong; Xu, Hua; et al.	Science & Technology - Other Topics; Materials Science; Physics	CNT, CdSe quantum dots	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
357	2009	Development of Urease/Layered Double Hydroxides Nanohybrid Materials for the Urea Detection: Synthesis, Analytical and Catalytic Characterizations	Baccar, Z. M.; Caballero, D.; Zine, N.; et al.	Chemistry; Electrochemistry; Instruments & Instrumentation; Physics	Urease, Mg-Al LDH, Zn-Al LHD	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
358	2009	Resistance of nanofill and nanohybrid resin composites to toothbrush abrasion with calcium carbonate slurry	Suzuki, Toshimitsu; Kyoizumi, Hideaki; Finger, Werner J.; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
359	2009	Structural and photoluminescence properties of laser processed ZnO/carbon nanotube nanohybrids	Aissa, Brahim; Fauteux, Christian; El Khakani, My Ali; et al.	Materials Science	MWNT, ZnO, Co, Ni, SiO ₂ ,	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
360	2009	Observation of a Type II Heterojunction in a Highly Ordered Polymer-Carbon Nanotube Nanohybrid Structure	Schuetfort, Torben; Nish, Adrian; Nicholas, Robin J.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, regioregular poly(3-hexylthiophene)	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH

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361	2009	The Effect of Single, Binary and Ternary Anions of Chloride, Carbonate and Phosphate on the Release of 2,4-Dichlorophenoxyacetate Intercalated into the Zn-Al-layered Double Hydroxide Nanohybrid	Hussein, Mohd Zobir; Jaafar, Adila Mohamad; Yahaya, Asmah Hj.; et al.	Science & Technology - Other Topics; Materials Science; Physics	2,4-Dichlorophenoxyacetate, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
362	2009	In-Vitro Release Kinetics and Stability of Anticardiovascular Drugs- Intercalated Layered Double Hydroxide Nanohybrids	Panda, H. S.; Srivastava, R.; Bahadur, D.	Chemistry	pravastatin, fluvastatin, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
363	2009	Characterization of nanohybrid membranes for direct methanol fuel cell applications	Hasani-Sadrabadi, Mohammad Mahdi; Ghaffarian, Seyed Reza; Mokarram-Dorri, Nassir; et al.	Chemistry; Physics	N/A	N/A	N/A
364	2009	A novel method for fabricating polyelectrolyte complex/inorganic nanohybrid membranes with high isopropanol dehydration performance	Zhao, Qiang; Qian, Jinwen; Zhu, Chenxiao; et al.	Engineering; Polymer Science	N/A	N/A	N/A
365	2009	Thermal decomposition pathway of undoped and doped zinc layered gallate nanohybrid with Fe ³⁺ , Co ²⁺ and Ni ²⁺ to produce mesoporous and high pore volume carbon material	Ghotbi, Mohammad Yeganeh; bin Hussein, Mohd Zobir; Yahaya, Asmah Hj; et al.	Chemistry; Physics	Zinc layered gallate, Fe ³⁺ , Co ²⁺ , Ni ²⁺	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
366	2009	Synthesis and Characterization of Floxuridine-Layered Double Hydroxide Nanohybrids	Li Yan-Hong; Xu Jie; Zhang Shao-Jie; et al.	Chemistry	Floxuridine, LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
367	2009	A novel nonenzymatic hydrogen peroxide sensor based on multi-wall carbon nanotube/silver nanoparticle nanohybrids modified gold electrode	Zhao, Wei; Wang, Huicai; Qin, Xia; et al.	Chemistry	MWNT, Ag, Au	Sensors/biosensors/electrochemical sensors	CMNH
368	2009	Relationship between Electrode Performance and Chemical Bonding Nature in Mesoporous Metal Oxide-Layered Titanate Nanohybrids	Ha, Hyung-Wook; Kim, Tae Woo; Choy, Jin-Ho; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	FeO, NiO, titanate, Li	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
369	2010	Innovative Inorganic-Organic Nanohybrid Materials: Coupling Quantum Dots to Carbon Nanotubes	Schulz-Drost, Christian; Sgobba, Vito; Gerhards, Christina; et al.	Chemistry	SWNT, Quantum dots, pyrene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
370	2010	Stabilized liposomal nanohybrid cerasomes for drug delivery applications	Cao, Zhong; Ma, Yan; Yue, Xiuli; et al.	Chemistry	Paclitaxel, cerasomes	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
371	2010	Novel high-performance nanohybrid polyelectrolyte membranes based on bio-functionalized montmorillonite for fuel cell applications	Hasani-Sadrabadi, Mohammad Mahdi; Dashtimoghdam, Erfan; Majedi, Fatemeh S.; et al.	Chemistry	N/A	N/A	N/A

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372	2010	A DNA-templated catalyst: the preparation of metal-DNA nanohybrids and their application in organic reactions	Wang, Ye; Ouyang, Guanghui; Zhang, Jintang; et al.	Chemistry	Pd, Au, Ag, Pt, DNA	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
373	2010	Superior SWNT dispersion by amino acid based amphiphiles: designing biocompatible cationic nanohybrids	Brahmachari, Sayanti; Das, Dibyendu; Das, Prasanta Kumar	Chemistry	SWNT, amino acid based amphiphiles	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
374	2010	Diameter dependent electron transfer in supramolecular nanohybrids of (6,5)- or (7,6)-enriched semiconducting SWCNT as donors and fullerene as acceptor	Sandanayaka, Atula S. D.; Maligaspe, Eranda; Hasobe, Taku; et al.	Chemistry	SWNT, pyrene, fullerene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
375	2010	Synthesis of Poly(vinyl alcohol)/C-60 and Poly(N-vinylpyrrolidone)/C-60 Nanohybrids as Potential Photodynamic Cancer Therapy Agents	Hurtgen, Marie; Debuigne, Antoine; Mouithys-Mickalad, Ange; et al.	Chemistry	Fullerene, poly(vinyl alcohol), poly(N-vinylpyrrolidone)	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
376	2010	Fabrication of polypyrrole/ZnCoO nanohybrid systems for solar cell applications	Kumar, G. Mohan; Raman, V.; Kawakita, Jin; et al.	Chemistry	Polypyrrole, ZnCoO	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
377	2010	Nanohybrid Structures Formed by Carbon Nanotubes with Long Polynucleotide	Karachevtsev, V. A.; Karachevtsev, M. V.; Leontiev, V. S.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, polyribonucleotides	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
378	2010	Preparation and Characterization of PMAA/MWCNTs Nanohybrid Hydrogels With Improved Mechanical Properties	Luo, Yan-Ling; Xu, Feng; Feng, Qiang-Suo; et al.	Engineering; Materials Science	MWNT, poly(methacrylic acid)	Biomaterials	OMCNH
379	2010	Immediate repair bond strengths of microhybrid, nanohybrid and nanofilled composites after different surface treatments	Rinastiti, Margareta; Oezcan, Mutlu; Siswomihardjo, Widowati; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
380	2010	Inorganic-based phytohormone delivery vector of 2-chloroethylphosphonate nanohybrid: a new stimulating compound with controlled release property to increase latex production	Hussein, Mohd Zobir; Jaafar, Adila Mohamad; Yahaya, Asmah Hj.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Ethephon, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
381	2010	Synthesis of an herbicides-inorganic nanohybrid compound by ion exchange-intercalation of 3(2-chlorophenoxy)propionate into layered double hydroxide	Hussein, M. Z.; Hashim, N.; Yahaya, A. H.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	3(2-chlorophenoxy)propionate, Zn-Al LHD	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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382	2010	Fabrication and dielectric properties of advanced high permittivity polyaniline/poly(vinylidene fluoride) nanohybrid films with high energy storage density	Yuan, Jin-Kai; Dang, Zhi-Min; Yao, Sheng-Hong; et al.	Chemistry; Materials Science	N/A	N/A	N/A
383	2010	Interlayer modification of a layered H-octosilicate (H-RUB-18) with methanol: formation of a highly ordered organosilicate nanohybrid	Kiba, Shosuke; Itagaki, Tetsuro; Nakato, Teruyuki; et al.	Chemistry; Materials Science	Silicate, polysilic acid, methanol	Synthesis of new nanohybrids/materials	OMCNH
384	2010	Carbon nanotube-based magnetic-fluorescent nanohybrids as highly efficient contrast agents for multimodal cellular imaging	Chen, Bingdi; Zhang, Hui; Zhai, Chuanxin; et al.	Chemistry; Materials Science	MWNT, CdTe quantum dots, FeO	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
385	2010	Silica xerogel-chitosan nano-hybrids for use as drug eluting bone replacement	Lee, Eun-Jung; Jun, Shin-Hee; Kim, Hyoun-Ee; et al.	Engineering; Materials Science	Silica xerogel, chitosan	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
386	2010	Nanohybrids of Ultrathin Titania Nanosheets and Zinc Oxide Nanoparticles by an Electrostatic Interaction	Kim, Sunmi; Paek, Seungwoo; Lee, Seonghoo	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Titania, ZnO	Synthesis of new nanohybrids/materials	MMNH
387	2010	Preparation of Soluble Polyimide/MgO Nanohybrid Films by In situ Hybridization Method and Evaluation of Their Thermal Conductivity	Murakami, Kimiya; Yamada, Kazuhiko; Deguchi, Kenzo; et al.	Polymer Science	Polyimide, MgO	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
388	2010	Preparation and Characterization of Polyimide/ZnO Nano-hybrid Films Exhibiting High Refractive Indices	Suzuki, Atsuhisa; Ando, Shinji	Polymer Science	Polyimide, ZnO	Optical imaging and applications	OMCNH
389	2010	Pentacene thin-film on organic/inorganic nanohybrid dielectrics for ZnO charge injection memory transistor	Cha, Sung Hoon; Park, Aaron; Lee, Kwang H.; et al.	Materials Science; Physics	N/A	N/A	N/A
390	2010	Spectroscopical properties of organic/metal nanohybrids	Dellepiane, Giovanna; Cuniberti, Carla; Alloisio, Marina; et al.	Chemistry; Physics	polydiacetylenes, Au	Sensors/biosensors/electrochemical sensors	OMCNH
391	2010	Nano-hybrid self-crosslinked PDMA/silica hydrogels	Carlsson, Linn; Rose, Severine; Hourdet, Dominique; et al.	Chemistry; Materials Science; Physics; Polymer Science	poly(N,N-dimethylacrylamide), silica	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
392	2010	Fabrication of Micro-Nano Hybrid Patterns on a Solid Surface	Liu, Peng; Ding, Jiandong	Chemistry; Materials Science	N/A	N/A	N/A
393	2010	Electrocatalytic oxidation and determination of ascorbic acid in the presence of dopamine at multiwalled carbon nanotube-silica network-gold nanoparticles based nanohybrid modified electrode	Ragupathy, Dhanusuraman; Gopalan, Anantha Iyengar; Lee, Kwang-Pill	Chemistry; Electrochemistry; Instruments & Instrumentation	MWNT, silica, Au	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH

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394	2010	Synthesis and spectroscopic characterization of solution processable highly ordered polythiophene-carbon nanotube nanohybrid structures	Schuetfort, T.; Snaith, H. J.; Nish, A.; et al.	Science & Technology - Other Topics; Materials Science; Physics	SWNT, regio-regular poly(3-hexylthiophene)	Crystallography and polymer crystallization	OMCNH
395	2010	Organization of Molybdenum Oxide Nanohybrids by Intercalation of Aminohydroxy Ligands into Layered Molybdic Acid: Efficient Catalysts in Oxidation of Alcohols	Afsharpour, M.; Mahjoub, A. R.; Amini, M. M.; et al.	Biotechnology & Applied Microbiology; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A
396	2010	Random lasing action from ZnO-silica nanohybrids	Stassinopoulos, Andreas; Das, Rabindra N.; Anastasiadis, Spiros H.; et al.	Optical	ZnO, silica	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
397	2010	Hierarchical structure of injection-molded bars of HDPE/MWCNTs composites with novel nanohybrid shish-kebab	Yang, Jinghui; Wang, Ke; Deng, Hua; et al.	Polymer Science	MWNT, polyethylene	Crystallography and polymer crystallization	OMCNH
398	2010	Hierarchically Constrained Dynamics and Emergence of Complex Behavior in Nanohybrids	Carlos, L. D.; Pacheco, J. M.; Ferreira, R. A. S.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
399	2010	Ordered luminescent nanohybrid thin films of Eu(BA)(3)Phen nanoparticle in polystyrene matrix from diblock copolymer self-assembly	Wang, Chao; Zhang, Yaoming; Pei, Xianqiang; et al.	Chemistry; Materials Science; Physics	polystyrene-block-poly(ethylene oxide), Eu(BA)3	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
400	2010	Surface texture and roughness of polished nanofill and nanohybrid resin composites	Endo, Tatsuo; Finger, Werner J.; Kanehira, Masafumi; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
401	2010	Nano-hybrids incorporation into poly(epsilon-caprolactone) for multifunctional applications: Mechanical and barrier properties	Bugatti, Valeria; Costantino, Umberto; Gorrasi, Giuliana; et al.	Polymer Science	Benzoate (Bz), 2,4-dichlorobenzoate (BzDC), para-hydroxybenzoate (p-BzOH) and ortho-hydroxybenzoate (o-BzOH), Zn-Al LDH	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
402	2010	Antimalarial evaluation of copper(II) nanohybrid solids: inhibition of plasmeprin II, a hemoglobin-degrading malarial aspartic protease from Plasmodium falciparum	Mohapatra, Subash Chandra; Tiwari, Hemandra Kumar; Singla, Manisha; et al.	Biochemistry & Molecular Biology; Chemistry	LCu(CH(3)COO)(2), LCuCl(2), L = diamide	Antimicrobial/antibacterial applications	OMCNH
403	2010	Visible photoluminescence of MWCNT/CdS nanohybrid structure synthesized by a simple chemical process	Paul, Rima; Kumbhakar, P.; Mitra, A. K.	Materials Science; Physics	MWNT, CdS	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
404	2010	In-Situ Template Synthesis of a Polymer/Semiconductor Nanohybrid Using Amphiphilic Conducting Block Copolymers	Lee, Yi-Huan; Chang, Chun-Jie; Kao, Chi-Jen; et al.	Chemistry; Materials Science	CdS, polyphenylene-b-poly(2-vinyl pyridine)	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH

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405	2010	Synthesis of Phenoxyherbicides-Intercalated Layered Double Hydroxide Nanohybrids and Their Controlled Release Property	Sarijo, Siti Halimah; bin Hussein, Mohd Zobir; Yahaya, Asmah Hj; et al.	Biotechnology & Applied Microbiology; Science & Technology - Other Topics; Materials Science	2-chloro-(2CPA) and 2,4,5trichlorophenoxy acetates (TCPA), LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
406	2010	Selective cell affinity of biomimetic micro-nano-hybrid structured TiO ₂ overcomes the biological dilemma of osteoblasts	Hori, Norio; Iwasa, Fuminori; Ueno, Takeshi; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
407	2010	High flux composite PTMSP-silica nanohybrid membranes for the pervaporation of ethanol/water mixtures	Claes, S.; Vandezande, P.; Mullens, S.; et al.	Engineering; Polymer Science	N/A	N/A	N/A
408	2010	Tuning the Charge-Transfer Property of PbS-Quantum Dot/TiO ₂ -Nanobelt Nanohybrids via Quantum Confinement	Wang, Defa; Zhao, Haiguang; Wu, Nianqiang; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	PbS quantum dots, titania	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
409	2010	Self-assembly and characterization of Ca-Al-LDH nanohybrids containing casein proteins as guest anions	Yu, Bin; Bian, Hang; Plank, Johann	Chemistry; Physics	Ca-Al LDH, casein	Synthesis of new nanohybrids/materials	OMCNH
410	2010	P-coumaric acid-zinc basic salt nanohybrid for controlled release and sustained antioxidant activity	Biswick, Timothy; Park, Dae-Hwan; Shul, Yong-Gun; et al.	Chemistry; Physics	P-coumaric acid, Zn basic salt	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
411	2010	Synthesis and characterization of the SnO ₂ -pillared layered titanate nanohybrid	Ko, Ji Eun; Kwon, Bob Jin; Jung, Hyun	Chemistry; Physics	SnO ₂ , titanate	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
412	2010	Encapsulation of Conjugated Oligomers in Single-Walled Carbon Nanotubes: Towards Nanohybrids for Photonic Devices	Loi, Maria Antonietta; Gao, Jia; Cordella, Fabrizio; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, conjugated oligomers	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
413	2010	Nanohybrids of Magnetic Iron-Oxide Particles in Hydrophobic Organoclays for Oil Recovery	Hsu, Ru-Siou; Chang, Wen-Hsin; Lin, Jiang-Jen	Science & Technology - Other Topics; Materials Science	Magnetic FeO, silicate clay (montmorillonite)	Membrane research, gas removal, pollutant remediation	MMNH
414	2010	Solution Chemistry of Self-Assembled Graphene Nanohybrids for High-Performance Flexible Biosensors	Choi, Bong Gill; Park, HoSeok; Park, Tae Jung; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Graphene, nafion	Sensors/biosensors/electrochemical sensors	OMCNH
415	2010	Efficient epoxidation over cyanocobalamine containing SBA-15 organic-inorganic nanohybrids	Karimi, Z.; Mahjoub, A. R.	Chemistry; Materials Science; Physics	SBA-15 mesoporous silica, triblock copolymer P123, aminopropyl, thiol, ammonium and sulfonic acid	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
416	2010	Exploring Cellular Adhesion and Differentiation in a Micro-/Nano-Hybrid Polymer Scaffold	Cheng, Ke; Kisaalita, William S.	Biotechnology & Applied Microbiology; Food Science & Technology	N/A	N/A	N/A

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417	2010	Synthesis and characterization of [4-(2,4-dichlorophenoxybutyrate)-zinc layered hydroxide] nanohybrid	Hussein, Mohd Zobir; Hashim, Norhayati; Yahaya, Asmah Hj.; et al.	Chemistry; Physics	4-(2,4-dichlorophenoxy)butyrate (agrochemical), Zn layered hydroxide	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
418	2010	Glucose-Responsive Bioinorganic Nanohybrid Membrane for Self-Regulated Insulin Release	Gordijo, Claudia R.; Shuhendler, Adam J.; Wu, Xiao Yu	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
419	2010	Prediction of first matrix cracking in micro/nanohybrid brittle matrix composites	Pavia, F.; Letertre, A.; Curtin, W. A.	Materials Science	N/A	N/A	N/A
420	2010	Development of a Glucose Biosensor Using Advanced Electrode Modified by Nanohybrid Composing Chemically Modified Graphene and Ionic Liquid	Yang, Min Ho; Choi, Bong Gill; Park, HoSeok; et al.	Chemistry; Electrochemistry	Graphene, ionic liquid	Sensors/biosensors/electrochemical sensors	OMCNH
421	2010	Synthesis and Characterization of Functionalized Silica-Based Nanohybrid Materials for Oxyanions Adsorption	Karatchevtseva, Inna; Astoux, Marion; Cassidy, David J.; et al.	Chemistry; Materials Science	Silica, amino-functionalized alkyltrialkoxysilanes and tetraalkoxysilanes, aromatic carboxylic acid.	Adsorption studies	OMCNH
422	2010	Thermal degradation studies of polyurethane/POSS nanohybrid elastomers	Lewicki, James P.; Pielichowski, Krzysztof; De la Croix, Pauline Tremblot; et al.	Polymer Science	N/A	N/A	N/A
423	2010	Noble Metal-Organic Nanohybrids for Chemical Sensing: Synthesis and Characterization	Alloisio, Marina; Demartini, Anna; Cuniberti, Carla; et al.	Chemistry; Electrochemistry; Instruments & Instrumentation; Physics	10,12-pentacosadiynoic acid, Ag, Au	Synthesis of new nanohybrids/materials	OMCNH
424	2010	Optical, structural and adsorption properties of zinc peroxide/hydrogel nanohybrid films	Sebok, Daniel; Janovak, Laszlo; Dekany, Imre	Chemistry; Materials Science; Physics	zinc-peroxide, poly(acrylamide)	Optical imaging and applications	OMCNH
425	2010	Transparent acryl-clay nanohybrid films with low thermal expansion coefficient	Sugimoto, Hideki; Nunome, Kazunori; Daimatsu, Kazuki; et al.	Chemistry; Polymer Science	N/A	N/A	N/A
426	2010	Synthesis and characterization of poly(EMA-co-HEA)/SiO ₂ nanohybrids	Valles-Lluch, A.; Rodriguez-Hernandez, J. C.; Gallego Ferrer, G.; et al.	Polymer Science	poly(ethyl methacrylate (EMA)-co-hydroxyethyl acrylate(HEA)), SiO ₂	Synthesis of new nanohybrids/materials	OMCNH
427	2010	Synthesis and Characterization of Hippurate-Layered Double Hydroxide Nanohybrid and Investigation of its Release Property	Hussein, M. Z.; Bahar, F. A.; Yahaya, A. Hj	Chemistry	hippurate, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
428	2010	Microgel/clay nanohybrids as responsive scavenger systems	Berger, Sebastian; Singh, Rekha; Sudha, Janardhanannair D.; et al.	Polymer Science	Silicon, phosphorous, sulfur	Synthesis of new nanohybrids/materials	OMCNH
429	2010	Molybdenum Peroxo Nanohybrid Compounds in Different Structures and Catalytic Properties	Afsharpour, Maryam; Mahjoub, Alireza; Amini, Mostafa M.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
430	2010	Solid state dye sensitized solar cells based on supersonic beam deposition of organic, inorganic cluster assembled, and nanohybrid materials	Coppede, N.; Nardi, M.; Toccoli, T.; et al.	Energy & Fuels	TiO ₂ , CuPc	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH

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431	2010	Tensile properties, cell adhesion, and drug release behavior of chitosan-silver-gelatin nanohybrid films and scaffolds	Rana, V. K.; Kushwaha, Omkar S.; Singh, RajPal; et al.	Polymer Science	Chitosan, Ag, gelatin	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
432	2010	Chitosan-mediated synthesis of carbon nanotube-gold nanohybrids	Gravel, Edmond; Foillard, Stephanie; Zhang HongBin; et al.	Chemistry	Carbon nanotube, Au, chitosan	Synthesis of new nanohybrids/materials	CMNH
433	2010	Mimicking Natural Dentin Using Bioactive Nanohybrid Scaffolds for Dentinal Tissue Engineering	Valles-Lluch, Ana; Novella-Maestre, Edurne; Sancho-Tello, Maria; et al.	Cell Biology; Biotechnology & Applied Microbiology	N/A	N/A	N/A
434	2010	Synthesis and Characterization of Poly(vinyl alcohol)/Water Glass (SiO ₂) Nano-Hybrids via Sol-Gel Process	Tenkayala, Sobha Rani; Subha, Marata Chinna Subbarao; Gorla, Venkata Reddy; et al.	Polymer Science	Poly(vinyl alcohol), Water Glass (SiO ₂)	Synthesis of new nanohybrids/materials	OMCNH
435	2010	Hierarchically-Ordered Electroactive Silica-Polyaniline Nanohybrid: A Novel Material with Versatile Properties	Manian, Manesh Kalayil; Iyengar, Gopalan Anantha; Lee, Kwang-Pill; et al.	Polymer Science	Poly(trimethoxy silylpropylaniline), silica	Synthesis of new nanohybrids/materials	OMCNH
436	2010	Design of a Multifunctional Nanohybrid System of the Phytohormone Gibberellic Acid Using an Inorganic Layered Double-Hydroxide Material	Hafez, Inas H.; Berber, Mohamed R.; Minagawa, Keiji; et al.	Agriculture; Chemistry; Food Science & Technology	phytohormone gibberellic acid, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
437	2010	Intercalated heterostructured nanohybrids of the semiconductor-nematic configuration: Preparation, properties, and applications	Ivashchishin, F. O.; Grygorchak, I. I.	Physics	N/A	N/A	N/A
438	2010	Raman Spectroscopy and Theoretical Characterization of Nanohybrids of Porphyrins with Carbon Nanotubes	Karachevtsev, Victor A.; Zarudnev, Evgen S.; Stepanian, Stepan G.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, meso-5,10,15,20-tetrakis(N-methyl-4-pyridyl)porphyrin (TMPyP4) and meso-5,10,15,20-tetraphenylporphyrin (TPP)	Synthesis of new nanohybrids/materials	OMCNH
439	2010	Effect of incoming and outgoing exchangeable anions on the release kinetics of phenoxycarbicides nanohybrids	Sarijo, Siti Halimah; Hussein, Mohd Zobir; Yahaya, Asmah H. J.; et al.	Engineering; Environmental Sciences & Ecology	2-chloro- (2CPA), 4-chloro and 2,4,5-trichloro (TCPA) phenoxycarbicides, Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
440	2010	Bio-inspired fabrication of composite membranes with ultrathin polymer-silica nanohybrid skin layer	Pan, Fusheng; Jia, Huiping; Cheng, Qinglai; et al.	Engineering; Polymer Science	poly(vinyl alcohol), protamine	Biomaterials	OMCNH
441	2010	One-pot sonochemical synthesis of dendron-stabilized gold nanoparticles as promising nano-hybrid with potential impact in biological application	Leonard, Kwati; Kawashima, Masatake; Okamura, Hiroaki; et al.	Materials Science; Physics	Dihydroxy fatty acid-based dendron, Au	Biomaterials	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
442	2010	Fabrication and application of a novel plant hormone sensor for the determination of methyl jasmonate based on self-assembling of phosphotungstic acid-graphene oxide nanohybrid on graphite electrode	Gan, Tian; Hu, Chengguo; Chen, Zilin; et al.	Chemistry; Electrochemistry; Instruments & Instrumentation	Poly(ethylene terephthalate), polyhedral oligomeric silsesquioxane	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	MMNH
443	2010	Characterization and biocompatibility of nanohybrid scaffold prepared via in situ crystallization of hydroxyapatite in chitosan matrix	Chen, Jingdi; Nan, Kaihui; Yin, Shiheng; et al.	Biophysics; Chemistry; Materials Science	Hydroxyapatite, chitosan	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
444	2010	Li4Ti5O12/reduced graphite oxide nano-hybrid material for high rate lithium-ion batteries	Kim, Hyun-Kyung; Bak, Seong-Min; Kim, Kwang-Bum	Electrochemistry	Li4Ti5O12, graphite oxide	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
445	2010	Effect Aging Conditions on the Repair Bond Strength of a Microhybrid and a Nanohybrid Resin Composite	Ozcan, Mutlu; Cura, Cenk; Brendeke, Johannes	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
446	2010	Inorganic-polymer nanohybrid carrier for delivery of a poorly-soluble drug, ursodeoxycholic acid	Choi, Goeun; Lee, Ji-Hee; Oh, Yeon-Ji; et al.	Pharmacology & Pharmacy	ursodeoxycholic acid (poorly-soluble drug), Mg-AI LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
447	2011	Electrochemical detection of extracellular hydrogen peroxide released from RAW 264.7 murine macrophage cells based on horseradish peroxidase-hydroxyapatite nanohybrids	Li, Chunyun; Zhang, Hui; Wu, Ping; et al.	Chemistry	horseradish peroxidase, hydroxyapatite	Sensors/biosensors/electrochemical sensors	OMCNH
448	2011	TiO2-decorated graphene nanohybrids for fabricating an amperometric acetylcholinesterase biosensor	Wang, Kun; Li, He-Nan; Wu, Jun; et al.	Chemistry	Graphene, TiO2	Sensors/biosensors/electrochemical sensors	CMNH
449	2011	Nanohybridization of Polyoxometalate Clusters and Single-Wall Carbon Nanotubes: Applications in Molecular Cluster Batteries	Kawasaki, Naoya; Wang, Heng; Nakanishi, Ryo; et al.	Chemistry	SWNT, polyoxometalate	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
450	2011	Catalytic Oxidation of Silanes by Carbon Nanotube-Gold Nanohybrids	John, Jubi; Gravel, Edmond; Hagege, Agnes; et al.	Chemistry	MWNT, Au	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
451	2011	Conjugation of Porphyrin to Nanohybrid Cerasomes for Photodynamic Diagnosis and Therapy of Cancer	Liang, Xiaolong; Li, Xiaoda; Yue, Xiuli; et al.	Chemistry	Porphyrim, Cerasomes	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
452	2011	Platinum Nanoparticles Encapsulated by Aminopeptidase: A Multifunctional Bioinorganic Nanohybrid Catalyst	San, Boi Hoa; Kim, Sungsu; Moh, Sang Hyun; et al.	Chemistry	Pt, aminopeptidase	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
453	2011	Photoresponsive liposomal nanohybrid cerasomes	Liang, Xiaolong; Yue, Xiuli; Dai, Zhifei; et al.	Chemistry	Indium tin oxide, Ag	Optical imaging and applications	MMNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
454	2011	Nanohybridization of ferrocene clusters and reduced graphene oxides with enhanced lithium storage capability	Zhu, Jixin; Sun, Kuo; Sim, Daohao; et al.	Chemistry	Graphene oxide, ferrocene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
455	2011	One-Step and Self-Assembly Based Fabrication of Pt/TiO ₂ Nanohybrid Photocatalysts with Programmed Nanopatterns	Jang, Yu Jin; Kim, Dong Ha	Chemistry	Pt, TiO ₂	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
456	2011	Nanohybrid Materials as Transducer Surfaces for Electrochemical Sensing Applications	Pereira da Silva Neves, Marta Maria; Gonzalez Garcia, Maria Begona; Delerue-Matos, Cristina; et al.	Chemistry; Electrochemistry	N/A	N/A	N/A
457	2011	Visible-light active nanohybrid TiO ₂ /carbon photocatalysts with programmed morphology by direct carbonization of block copolymer templates	Kochuveedu, Saji Thomas; Jang, Yu Jin; Jang, Yoon Hee; et al.	Chemistry	Carbon nanodots, TiO ₂	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
458	2011	TiO ₂ micro-nano-hybrid surface to alleviate biological aging of UV-photofunctionalized titanium	Iwasa, Fuminori; Tsukimura, Naoki; Sugita, Yoshihiko; et al.	Science & Technology - Other Topics; Pharmacology & Pharmacy	N/A	N/A	N/A
459	2011	Development of antiproliferative nanohybrid compound with controlled release property using ellagic acid as the active agent	Hussein, Mohd Zobir; Al Ali, Samer Hasan; Zainal, Zulkarnain; et al.	Science & Technology - Other Topics; Pharmacology & Pharmacy	ellagic acid, Zn layered hydroxide	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
460	2011	Preparation of hippurate-zinc layered hydroxide nanohybrid and its synergistic effect with tamoxifen on HepG2 cell lines	Al Ali, Samer Hasan Hussein; Al-Qubaisi, Mothanna; Hussein, Mohd Zobir; et al.	Science & Technology - Other Topics; Pharmacology & Pharmacy	hippurate, Zn layered hydroxide	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
461	2011	30-Month randomised clinical trial to evaluate the clinical performance of a nanofill and a nanohybrid composite	Maciel de Andrade, Ana Karina; Duarte, Rosangela Marques; Sales Cunha Medeiros e Silva, Fabia Danielle; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
462	2011	Four-year clinical evaluation of Class II nano-hybrid resin composite restorations bonded with a one-step self-etch and a two-step etch-and-rinse adhesive	van Dijken, Jan W. V.; Pallesen, Ulla	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
463	2011	Optical, photophysical and magnetic behavior of GMP-templated binary (beta-Fe ₂ O ₃ /CdS) and ternary (beta-Fe ₂ O ₃ /Ag/CdS) nanohybrids	Kumar, Anil; Singhal, Aditi	Chemistry; Materials Science	beta-Fe ₂ O ₃ /CdS, beta-Fe ₂ O ₃ /Ag/CdS	Optical imaging and applications	MMNH
464	2011	Self-assembled Fe ₃ O ₄ -layered double hydroxide colloidal nanohybrids with excellent performance for treatment of organic dyes in water	Chen, Chunping; Gunawan, Poernomo; Xu, Rong	Chemistry; Materials Science	Fe ₃ O ₄ , Mg-Al LDH	Optical imaging and applications	MMNH

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465	2011	Silica nanohybrids integrated with CuInS ₂ /ZnS quantum dots and magnetite nanocrystals: multifunctional agents for dual-modality imaging and drug delivery	Hsu, Jen-Chieh; Huang, Chih-Ching; Ou, Keng-Liang; et al.	Chemistry; Materials Science	SiO ₂ nanohybrids are composed of CuInS ₂ /ZnS nanocrystals	Delivery Carriers, and Controlled Release of Drugs/Compounds	MMNH
466	2011	UV Screening of Ferulic Acid-Zinc Basic Salt Nanohybrid with Controlled Release Rate	Biswick, Timothy; Park, Dae-Hwan; Shul, Yong-Gun; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Ferulic acid, Zn basic salt	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
467	2011	Nanohybrid Versus Nanofill Composite in Class I Cavities: Margin Analysis After 12 Months	Maciel de Andrade, Ana Karina; Duarte, Rosangela Marques; Guedes Lima, Severino Jackson; et al.	Anatomy & Morphology; Life Sciences & Biomedicine - Other Topics; Microscopy	N/A	N/A	N/A
468	2011	Making silica nanoparticle-covered graphene oxide nanohybrids as general building blocks for large-area superhydrophilic coatings	Kou, Liang; Gao, Chao	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Silica, graphene oxide	Synthesis of new nanohybrids/materials	MMNH
469	2011	A facile synthetic route for the preparation of gold nanostars with magnetic cores and their reusable nanohybrid catalytic properties	Miao, Xiumin; Wang, Tingting; Chai, Fang; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Au nanostars, Fe ₃ O ₄	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
470	2011	Polyethylenimine-carbon nanotube nanohybrids for siRNA-mediated gene silencing at cellular level	Foillard, Stephanie; Zuber, Guy; Doris, Eric	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Polyethylenimine, carbon nanotube?	Sensors/biosensors/electrochemical sensors	OMCNH
471	2011	A general procedure to synthesize highly crystalline metal oxide and mixed oxide nanocrystals in aqueous medium and photocatalytic activity of metal/oxide nanohybrids	Thanh-Dinh Nguyen; Cao-Thang Dinh; Trong-On Do	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	In ₂ O ₃ , Y ₂ O ₃ , ZrO ₂ , TiO ₂ , CeO ₂ , tungstate, vanadate, molybdate, Ag, Au	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
472	2011	Experimental investigation of the thermal transport properties of a carbon nanohybrid dispersed nanofluid	Baby, Tessa Therese; Ramaprabhu, Sundara	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Graphene, MWNT	Semiconductors/superconductors/conductive materials	CCNH
473	2011	Synthesis of multi-walled carbon nanotube/polyhedral oligomeric silsesquioxane nanohybrid by utilizing click chemistry	Yadav, Santosh Kumar; Mahapatra, Sibdas Singha; Yoo, Hye Jin; et al.	Science & Technology - Other Topics; Materials Science; Physics	MWNT, polyhedral oligomeric silsesquioxane	Synthesis of new nanohybrids/materials	OMCNH
474	2011	Operator Variability Using Different Polishing Methods and Surface Geometry of a Nanohybrid Composite	Zimmerli, B.; Lussi, A.; Flury, S.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
475	2011	Rayleigh scattering study and particle density determination of a high refractive index TiO ₂ nanohybrid polymer	Elim, Hendry I.; Cai, Bin; Sugihara, Okihiro; et al.	Chemistry; Physics	TiO ₂ , polymer	Transparent and conductive films	OMCNH
476	2011	Novel 1-D biophotonic nanohybrids: protein nanofibers meet quantum dots	Wei, Gang; Keller, Thomas F.; Zhang, Jiantao; et al.	Chemistry; Materials Science; Physics; Polymer Science	N-hydroxysulfosuccinimide modified CdSe-ZnS core-shell quantum dots, fibronectin nanofibers	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH

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477	2011	Preparation of ITO/Ag nanohybrid particles by a reverse micellar layer-by-layer coating	Fan, Jin-Wei; Tseng, Tzu-Tsung; Chen, Chun-Nan; et al.	Materials Science	Ag,ITO DNA	Synthesis of new nanohybrids/materials	MMNH
478	2011	The effect of nanohybrid materials on the pour-point and viscosity depressing of waxy crude oil	Wang Feng; Zhang DongMin; Ding YanFen; et al.	Materials Science	N/A	N/A	N/A
479	2011	Corrosion Resistance Nano-hybrid Sol-Gel Coating on Steel Sheet	Guin, Akshya Kumar; Nayak, Suryakanta; Rout, Tapan Kumar; et al.	Metallurgy & Metallurgical Engineering	N/A	N/A	N/A
480	2011	Electrochemical Synthesis of M:DNA Nanohybrids	Jayaraman, Shrisudersan; Tang, Wei; Yongsunthon, Ruchirej	Electrochemistry; Materials Science	N/A	N/A	N/A
481	2011	A general strategy to prepare graphene-metal/metal oxide nanohybrids	Ji, Junyi; Zhang, Guanghui; Chen, Hongyu; et al.	Chemistry; Materials Science	poly(3,4-ethylene dioxythiophene), TiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
482	2011	Crystal engineering and SERS properties of Ag-Fe ₃ O ₄ nanohybrids: from heterodimer to core-shell nanostructures	Huang, Jianmei; Sun, Yanhui; Huang, Shoushuang; et al.	Chemistry; Materials Science	Ag, Fe ₃ O ₄	Sensors/biosensors/electrochemical sensors	MMNH
483	2011	Facile route to prepare film of poly(3,4-ethylene dioxythiophene)-TiO ₂ nanohybrid for solar cell application	Dehaut, J.; Beouch, L.; Peralta, S.; et al.	Materials Science; Physics	poly(3,4-ethylenedioxythiophene), TiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
484	2011	High dielectric permittivity and low percolation threshold in polymer composites based on SiC-carbon nanotubes micro/nano hybrid	Yuan, Jin-Kai; Li, Wei-Long; Yao, Sheng-Hong; et al.	Physics	N/A	N/A	N/A
485	2011	High performance n-type organic-inorganic nanohybrid semiconductors for flexible electronic devices	Park, Yerok; Han, Kyu S.; Lee, Byoung H.; et al.	Materials Science; Physics	N/A	N/A	N/A
486	2011	Study on the Structural and Photocatalytic Properties for Pore Size Tailored SnO ₂ -Pillared Layered Titanate Nanohybrids	Ko, Ji Eun; Kim, In Young; Hwang, Seong-Ju; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	mesoporous SnO ₂ -pillared layered titanate	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
487	2011	In Vitro Biocompatibility of PLGA-HA Nano-Hybrid Scaffold	Seo, Na Mi; Ko, Jae Hoon; Park, Young Hwan; et al.	Cell Biology; Engineering	N/A	N/A	N/A
488	2011	Zinc-stearate-layered hydroxide nanohybrid material as a precursor to produce carbon nanoparticles	Ghotbi, Mohammad Yeganeh; Bagheri, Narjes; Sadmezhaad, S. K.	Chemistry; Materials Science; Metallurgy & Metallurgical Engineering	Zinc-stearate-layered hydroxide	Synthesis of new nanohybrids/materials	OMCNH
489	2011	Fe-phthalocyanine oligomer/Fe ₃ O ₄ nano-hybrid particles and their effect on the properties of polyarylene ether nitriles magnetic nanocomposites	Meng, Fanbin; Zhao, Rui; Xu, Mingzhen; et al.	Chemistry	Fe phthalocyanine oligomer/Fe ₃ O ₄	Synthesis of new nanohybrids/materials	OMCNH
490	2011	Nano-hybrid shish-kebab: Isotactic polypropylene epitaxial growth on electrospun polyamide 66 nanofibers via isothermal crystallization	Liang, Yanyan; Zheng, Guoqiang; Han, Wenjuan; et al.	Materials Science; Physics	Polyamide 66, isotactic polypropylene	Crystallography and polymer crystallization	OMCNH

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491	2011	Giant Rabi splitting in metal/semiconductor nanohybrids	Bellessa, Joel; Symonds, Clementine; Vynck, Kevin; et al.	Physics	N/A	N/A	N/A
492	2011	Microleakage of repaired class V silorane and nano-hybrid composite restorations after preparation with erbium:yttrium-aluminum-garnet laser and diamond bur	Yaman, Batu Can; Efes, Begum Guray; Dörter, Can; et al.	Engineering; Surgery	N/A	N/A	N/A
493	2011	Photophysics and photoelectrochemical properties of nanohybrids consisting of fullerene-encapsulated single-walled carbon nanotubes and poly(3-hexylthiophene)	Tezuka, Noriyasu; Umeyama, Tomokazu; Matano, Yoshihiro; et al.	Chemistry; Energy & Fuels; Engineering; Environmental Sciences & Ecology	single-walled carbon nanotubes (SWNTs) encapsulating C-60 or C-70 with poly(3-hexylthiophene) (P3HT)	Semiconductors/superconductor s/conductive materials	CCNH
494	2011	Kinetically Controlled Cellular Interactions of Polymer-Polymer and Polymer-Liposome Nanohybrid Systems	Sunoqrot, Suhair; Bae, Jin Woo; Jin, Su-Eon; et al.	Biochemistry & Molecular Biology; Chemistry	N/A	N/A	N/A
495	2011	Effects of External Electric Field on Film Growth, Morphology, and Nanostructure of Polyelectrolyte and Nanohybrid Multilayers onto Insulating Substrates	Zhang, Guojun; Dai, Limin; Zhang, Lei; et al.	Chemistry; Materials Science	Poly(sodium styrene sulfonate), poly(diallyldimethyl ammonium chloride), ZrO ₂	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
496	2011	Porous zirconium complex-layered titanate nanohybrids with gas adsorption and photocatalytic activity	Kim, In Young; Lee, Kang Yoon; Kim, Tae Woo; et al.	Materials Science; Physics	Zr, titanate	Adsorption studies	MMNH
497	2011	Monomer elution from nanohybrid and ormocer-based composites cured with different light sources	Manojlovic, Dragica; Radisic, Marina; Vasiljevic, Tatjana; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
498	2011	Thermomechanical and Surface Properties of Novel Poly(ether urethane)/Polyhedral Oligomeric Silsesquioxane Nanohybrid Elastomers	Tan, Juanjuan; Jia, Zhiyuan; Sheng, Dekun; et al.	Engineering; Polymer Science	Poly(ether urethane)/Polyhedral Oligomeric Silsesquioxane	Synthesis of new nanohybrids/materials	OMCNH
499	2011	Micro-nano hybrid structures with manipulated wettability using a two-step silicon etching on a large area	Kim, Beom Seok; Shin, Sangwoo; Shin, Seung Jae; et al.	Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
500	2011	Synthesis and characterization of a lamellar hydroxyapatite/DNA nanohybrid	Zuo, Guifu; Wan, Yizao; Meng, Xianguang; et al.	Materials Science	lamellar hydroxyapatite, DNA	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
501	2011	In situ synthesis of palladium nanoparticle-graphene nanohybrids and their application in nonenzymatic glucose biosensors	Lu, Li-Min; Li, Hong-Bo; Qu, Fengli; et al.	Biophysics; Biotechnology & Applied Microbiology; Chemistry; Electrochemistry; Science & Technology - Other Topics	Graphene, Pd	Sensors/biosensors/electrochemical sensors	CMNH

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502	2011	Novel electrocatalytic system for the oxidation of methyl jasmonate based on layer-by-layer assembling of montmorillonite and phosphotungstic acid nanohybrid on graphite electrode	Gan, Tian; Hu, Chengguo; Chen, Zilin; et al.	Electrochemistry	Montmorillonite, phosphotungstic acid	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
503	2011	Nanohybrid vs. fine hybrid composite in extended Class II cavities after six years	Kraemer, Norbert; Garcia-Godoy, Franklin; Reinelt, Christian; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	Ag, coumarin, rhodamine	Sensors/biosensors/electrochemical sensors	MMNH
504	2011	Organic-Inorganic Nanohybrids as Novel Thermoelectric Materials: Hybrids of Polyaniline and Bismuth(III) Telluride Nanoparticles	Toshima, Naoki; Imai, Masahiro; Ichikawa, Shoko	Electrochemistry; Materials Science; Physics	polyaniline, polypyrrole, and polyphenylenevinylene, bismuth (III) telluride	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
505	2011	Glucose biosensor based on nanohybrid material of gold nanoparticles and glucose oxidase on a bioplatfrom	Zhang, Yan; Jia, Wenjuan; Cui, Miao; et al.	Biochemistry & Molecular Biology; Biotechnology & Applied Microbiology	Titania, Hyperbranched polyglycidol	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
506	2011	Facile synthesis of titania/hyperbranched polyglycidol nanohybrids with controllable morphologies: from solid spheres, capsules to tubes	Li, Haiqing; Zhang, Lin; Jo, Jung Kyu; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A
507	2011	Plasmonic Nanohybrid with Ultrasmall Ag Nanoparticles and Fluorescent Dyes	Raino, Gabriele; Stoeferle, Thilo; Park, Chanhee; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	silver nanocrystals in a block copolymer micelle	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
508	2011	Fabrication and Interfacial Electronic Structure Studies on Polypyrrole/TiO(2) Nano Hybrid Systems for Photovoltaic Aspects	Kumar, Ganesan Mohan; Kawakita, Jin; Jayavel, Ramasamy	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Polypyrrole, TiO2	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
509	2011	Special susceptible aqueous ammonia chemi-sensor: Extended applications of novel UV-curable polyurethane-clay nanohybrid	Khan, Sher Bahadar; Rahman, Mohammed M.; Jang, Eui Soung; et al.	Chemistry	N/A	N/A	N/A
510	2011	Carboxymethyl tamarind gum-silica nanohybrids for effective immobilization of amylase	Singh, Vandana; Kumar, Pramendra	Biochemistry & Molecular Biology; Chemistry	Carboxymethyl tamarind gum, tetramethoxysilane	Biomaterials	OMCNH
511	2011	Indigo-sepiolite nanohybrids: Temperature-dependent synthesis of two complexes and comparison with indigo-palygorskite systems	Ovarlez, Sonia; Giulieri, Francoise; Delamare, Francois; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Indigo, sepiolite	Synthesis of new nanohybrids/materials	OMCNH
512	2011	Physical properties of current dental nanohybrid and nanofill light-cured resin composites	Sideridou, Irini D.; Karabela, Maria M.; Vouvoudi, Evangelia Ch.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
513	2011	Preparation and nonlinear optical response of novel palladium-containing micellar nanohybrids	Iliopoulos, Konstantinos; Chatzikyriakos, George; Demetriou, Maria; et al.	Materials Science; Optical	Pd, poly(lauryl methacrylate)-block-poly(2-(aceto-acetoxy)ethyl methacrylate)	Optical imaging and applications	OMCNH

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514	2011	Application of thermal analysis for the characterisation of intercalated and grafted organo-kaolinite nanohybrid materials	Letaief, Sadok; Detellier, Christian	Chemistry	dimethyl sulfoxide, kaolinite	Synthesis of new nanohybrids/materials	OMCNH
515	2011	Enhanced Fibroblasts Functions in a New Family of Hierarchically Organized Nanohybrid Elastomers	Shah, Jinesh; Girase, Bhupendra; Misra, R. Devesh K.	Materials Science	titania with a bi-functional agent, acrylic acid	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
516	2011	Nanohybridization of Silica-Coated Au Nanorods and Silica Nanoballs	Yi, Dong Kee	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Silica, Au	Synthesis of new nanohybrids/materials	MMNH
517	2011	In situ Formation of TiO ₂ in Electrospun Poly(methyl methacrylate) Nanohybrids	Zhang, Junhua; Maurer, Frans H. J.; Yang, Mingshu	Chemistry; Science & Technology - Other Topics; Materials Science	TiO ₂ , poly(methyl methacrylate)	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
518	2011	Tunable Electronic and Magnetic Properties in B _x N _y C _z Nanohybrids: Effect of Domain Segregation	Manna, Arun K.; Pati, Swapan K.	Chemistry; Science & Technology - Other Topics; Materials Science	Boron, Nitride, Carbon	Synthesis of new nanohybrids/materials	MMNH
519	2011	Electrochemical measurement of the flux of hydrogen peroxide releasing from RAW 264.7 macrophage cells based on enzyme-attapulgit clay nanohybrids	Wu, Ping; Cai, Zhewei; Chen, Jing; et al.	Biophysics; Biotechnology & Applied Microbiology; Chemistry; Electrochemistry; Science & Technology - Other Topics	enzyme-attapulgit clay	Sensors/biosensors/electrochemical sensors	OMCNH
520	2011	Protein-Promoted Synthesis of Pt Nanoparticles on Carbon Nanotubes for Electrocatalytic Nanohybrids with Enhanced Glucose Sensing	Wei, Gang; Xu, Fugang; Li, Zhuang; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Carbon nanotube, Pt	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
521	2011	Novel Nanohybrids of Silver Particles on Clay Platelets for Inhibiting Silver-Resistant Bacteria	Su, Hong-Lin; Lin, Siou-Hong; Wei, Jiun-Chiou; et al.	Life Sciences & Biomedicine - Other Topics	Ag, silica	Antimicrobial/antibacterial applications	MMNH
522	2011	Preparation and Toroid Formation of Multiblock Polystyrene/C-60 Nanohybrids	Peng, Kang-Jen; Liu, Ying-Ling	Polymer Science	Fullerene, polystyrene	Synthesis of new nanohybrids/materials	OMCNH
523	2011	Tailoring of physical properties in highly filled experimental nanohybrid resin composites	Pick, Barbara; Pelka, Matthias; Belli, Renan; et al.	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
524	2011	Synergistic effects of UV photofunctionalization and micro-nano hybrid topography on the biological properties of titanium	Tsukimura, Naoki; Yamada, Masahiro; Iwasa, Fuminori; et al.	Engineering; Materials Science	N/A	N/A	N/A
525	2011	Study on the Release Behavior and Mechanism by Monitoring the Morphology Changes of the Large-Sized Drug-LDH Nanohybrids	Huang, Wei; Zhang, Hui; Pan, Dengke	Engineering	Ibuprofen, Mg-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
526	2011	Transmission Electron Microscopy as a Tool to Image Bioinorganic Nanohybrids: The Case of Phage-Gold Nanocomposites	Cao, Binrui; Xu, Hong; Mao, Chuanbin	Anatomy & Morphology; Life Sciences & Biomedicine - Other Topics; Microscopy	N/A	N/A	N/A

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
527	2011	Silica Nanohybrid Membranes with High CO ₂ Affinity for Green Hydrogen Purification	Lau, Cher Hon; Liu, Songlin; Paul, Donald R.; et al.	Chemistry; Energy & Fuels; Materials Science; Physics	N/A	N/A	N/A
528	2011	Synthesis and luminescence properties of cinnamide based nanohybrid materials containing Eu (II) ions	Kumar, A. B. V. Kiran; Jayasimhadri, M.; Cha, Hyeongrae; et al.	Crystallography; Materials Science; Physics	N-(3-(triethoxysilyl)propyl)cinnamide, Eu(II)	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
529	2011	Multifunctional Polydiacetylene-Graphene Nanohybrids for Biosensor Application	Yun, Ji Sun; Yang, Kwang Suk; Kim, Do Hyun	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Polydiacetylene-Graphene	Sensors/biosensors/electrochemical sensors	OMCNH
530	2011	Highly conducting gold nanoparticles-graphene nanohybrid films for ultrasensitive detection of carcinoembryonic antigen	Han, Jing; Zhuo, Ying; Chai, Yaqin; et al.	Chemistry	Au, graphene	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	CMNH
531	2011	Polyethylene/carbon nanotube nanohybrid shish-kebab obtained by solvent evaporation and thin-film crystallization	Li, Lingyu; Wang, Wenda; Laird, Eric D.; et al.	Polymer Science	SWNT, polyethylene	Crystallography and polymer crystallization	OMCNH
532	2011	Effect of TiO ₂ Formation on the Free Volume Properties of Electrospun PMMA Nanohybrids	Zhang, Junhua; Yang, Mingshu; Maurer, Frans H. J.	Polymer Science	Poly(methyl methacrylate), TiO ₂	Crystallography and polymer crystallization	OMCNH
533	2011	Electrochemical sensors for hemoglobin and myoglobin detection based on methylene blue-multiwalled carbon nanotubes nanohybrid-modified glassy carbon electrode	Pakapongpan, Saithip; Palangsantikul, Rungtiva; Surareungchai, Werasak	Electrochemistry	MWNT, methylene blue	Sensors/biosensors/electrochemical sensors	OMCNH
534	2011	Nano-Hybrid Surface Coatings on Uncoated Papers from Softwood Fibers and Woodfree Fibers and Printability	Cengiz, Candan	Chemistry	N/A	N/A	N/A
535	2011	Mn-doped ZnS quantum dots/methyl violet nanohybrids for room temperature phosphorescence sensing of DNA	He Yu; Yan XiuPing	Chemistry	ZnS quantum dots/methyl violet, Mn	Sensors/biosensors/electrochemical sensors	MMNH
536	2011	"Nanohybrids" Based on pH-Responsive Hydrogels and Inorganic Nanoparticles for Drug Delivery and Sensor Applications	Riedinger, Andreas; Leal, Manuel Pernia; Deka, Smriti R.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	CdS Quantum Dot-Polyoxotungstate	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
537	2011	Enhancement of Interfacial Polymer Crystallinity Using Chromism in Single Inorganic Nanowire-Polymer Nanohybrids for Photovoltaic Applications	Rodd, Christopher M.; Agarwal, Ritesh	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	poly(3-hexylthiophene-2,5-diyl), CdS	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
538	2011	Synthesis of Dichlorprop-Zn/Al-hydratalcite Nanohybrid and its Controlled Release Property	Hussein, Mohd Zobir; Hashim, Norhayati; Yahaya, Asmah Hj; et al.	Science & Technology - Other Topics	dichlorprop[2(2,4-dichlorophenoxy)propionate], -Zn-Al LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH

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539	2011	Self-Assembly of Nanosized 0D Clusters: CdS Quantum Dot-Polyoxotungstate Nanohybrids with Strongly Coupled Electronic Structures and Visible-Light-Active Photofunctions	Kim, Hyo Na; Kim, Tae Woo; Choi, Kyong-Hoon; et al.	Chemistry	CdS Quantum Dot-Polyoxotungstate Nanohybrid	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
540	2011	Synthesis and Characterization of PU-Si Nanohybrid: Influence of Silica on Properties of UV-curable Polyurethane Acrylate	Jang, Eui Sung; Khan, Sher Bahadar; Choi, Joonsuk; et al.	Chemistry	polyurethane acrylate-silica	Synthesis of new nanohybrids/materials	OMCNH
541	2011	Effects of Si-O-Si Agglomerations on CO ₂ Transport and Separation Properties of Sol-Derived Nanohybrid Membranes	Lau, Cher Hon; Chung, Tai-Shung	Polymer Science	N/A	N/A	N/A
542	2011	Single-Walled Carbon Nanotube/Pyrenecyclodextrin Nanohybrids for Ultrahighly Sensitive and Selective Detection of p-Nitrophenol	Wei, Yan; Kong, Ling-Tao; Yang, Ran; et al.	Chemistry; Materials Science	SWNT, Pyrenecyclodextrin	Sensors/biosensors/electrochemical sensors	OMCNH
543	2011	Excitonic Resonance in Semiconductor-Metal Nanohybrids	Climente, Juan I.; Movilla, Jose L.; Goldoni, Guido; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	CdS	Semiconductors/superconductors/conductive materials	MMNH
544	2011	Novel nanohybrid materials based on L-leucine on hydrotalcite clays: Asymmetric epoxidation reaction of chalcona	Miranda, Ronald-Alexander; Llorca, Jordi; Finocchio, Elisabetta; et al.	Chemistry; Engineering	L-leucine on hydrotalcite clays	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
545	2011	A Novel Preparation of High-Refractive-Index and Highly Transparent Polymer Nanohybrid Composites	Cai, Bin; Sugihara, Okihiro; Elim, Hendry I.; et al.	Physics	N/A	N/A	N/A
546	2011	Phase Transfer Mediated Self-Assembly of CdTe-Polymer Nanohybrids for Uniform Fluorescent Films	Shen, Fu-Chun; Yang, Jian; Wang, Cai-Feng; et al.	Polymer Science	poly(methylmethacrylate-co-dimethyl diallyl ammonium chloride), CdTe	Optical imaging and applications	OMCNH
547	2011	Formation and photoinduced properties of zinc porphyrin-SWCNT and zinc phthalocyanine-SWCNT nanohybrids using diameter sorted nanotubes assembled via metal-ligand coordination and pi-pi stacking	Das, Sushanta K.; Subbaiyan, Navaneetha K.; D'Souza, Francis; et al.	Chemistry	Zn, porphyrin, SWCNT	Synthesis of new nanohybrids/materials	CMNH
548	2011	Molecular Aggregation State and Electrical Properties of Terthiophenes/Imogolite Nanohybrids	Yah, Weng On; Irie, Atsushi; Jiravanichanun, Nattha; et al.	Chemistry	terthiophenes and imogolite	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH

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549	2011	Mesoporous Layer-by-Layer Ordered Nanohybrids of Layered Double Hydroxide and Layered Metal Oxide: Highly Active Visible Light Photocatalysts with Improved Chemical Stability	Gunjakar, Jayavant L.; Kim, Tae Woo; Kim, Hyo Na; et al.	Chemistry	Zn-Cr LDH, TiO ₂	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
550	2011	Nanohybrids investigation by waveguide SNOM illumination mode	El-Kork, Nayla; Moretti, Paul; Jacquier, Bernard	Optical	N/A	N/A	N/A
551	2011	Synthesis and morphology of new functional polyimide/titania nano hybrid materials	Seyedjamali, Hojjat; Pirisedigh, Azadeh	Materials Science	Polyimide, TiO ₂	Synthesis of new nanohybrids/materials	OMCNH
552	2011	Large pore volume mesoporous copper particles and scaffold microporous carbon material obtained from an inorganic-organic nanohybrid material, copper-succinate-layered hydroxide	Ghotbi, Mohammad Yeganeh; Bagheri, Narjes; Sadmezhaad, S. K.	Chemistry	Copper-succinate layered hydroxide,	Semiconductors/superconductors/conductive materials	OMCNH
553	2011	Preparation of hollow platinum nanospheres/carbon nanotubes nanohybrids and their improved stability for electro-oxidation of methanol	Kuang, Y. J.; Wu, B. H.; Cui, Y.; et al.	Electrochemistry	Carbon nanotube, Pt	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
554	2011	Effects of surface conditioning on repair bond strengths of non-aged and aged microhybrid, nanohybrid, and nanofilled composite resins	Rinastiti, Margareta; Oezcan, Mutlu; Siswomihardjo, Widowati; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
555	2011	A Nano-hybrid Silver Colloidal Suspension Preparation	Zhao, Jian; Xie, Xuan; Zhou, Xiaodong	Polymer Science	tri-block copolymer polystyrene-b-poly(acrylic acid)-b-poly(gamma-methacryloxypropyltrimethoxysilane), Ag	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
556	2011	Facile synthesis and characterization of carbon nanotubes/silver nanohybrids coated with polyaniline	Van Hoa Nguyen; Shim, Jae-Jin	Materials Science; Physics; Polymer Science	MWNT, Ag	Synthesis of new nanohybrids/materials	CMNH
557	2011	Facile fabrication of flexible magnetic nanohybrid membrane with amphiphobic surface based on bacterial cellulose	Zhang, Wen; Chen, Shiyun; Hu, Weili; et al.	Chemistry; Polymer Science	N/A	N/A	N/A
558	2011	Synthesis and characterization of heterostructured nanohybrid of MgO-TiO ₂ -Al ₂ O ₃ /montmorillonite	Dou, Binlin; Chen, Haisheng; Song, Yongchen; et al.	Materials Science	MgO-TiO ₂ -Al ₂ O ₃ /montmorillonite	Synthesis of new nanohybrids/materials	MMNH
559	2011	Efficient Charge Separation in Multidimensional Nanohybrids	Peng, Xiaohui; Misewich, James A.; Wong, Stanislaus S.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	DWNT, CdSe QDs	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH

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560	2011	Superparamagnetic Plasmonic Nanohybrids: Shape-Controlled Synthesis, TEM-Induced Structure Evolution, and Efficient Sunlight-Driven Inactivation of Bacteria	Zhai, Yueming; Han, Lei; Wang, Ping; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Fe(3)O(4), Ag	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
561	2011	An Integrated Optimization Approach for Nanohybrid Circuit Cell Mapping	Xia, Yinshui; Chu, Zhufei; Hung, William N. N.; et al.	Engineering; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
562	2011	Influence of Magnetic Field and Lighting during the Creation Process of Nanohybrid Semiconductor-Nematic Structures on Their Impedance and Photo Response	Ivashchyn, Fedir; Grygorchak, Ivan; Sudakova, Olena; et al.	Materials Science; Metallurgy & Metallurgical Engineering	N/A	N/A	N/A
563	2011	Nanoporous Graphene Oxide Thin Films from Nanohybrid Multilayers	Hong, Jinkee; Kang, Sang Wook	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	reduced graphene oxide, Au	Synthesis of new nanohybrids/materials	CMNH
564	2011	SiO ₂ -Fe ₂ O ₃ -pillared Clay Nanohybrid with an Enhanced Gas Removal Property	Yang, Jae-Hun; Lee, Hee-Suk; Paek, Seung-Min; et al.	Chemistry	SiO ₂ -Fe ₂ O ₃ , montmorillonite	Membrane research, gas removal, pollutant remediation	MMNH
565	2011	Preparation and properties of PVC/PMMA-g-imogolite nanohybrid via surface-initiated radical polymerization	Ma, Wei; Otsuka, Hideyuki; Takahara, Atsushi	Polymer Science	Poly(methyl methacrylate), imogolite clay	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
566	2011	Novel Nanohybrid Structured Regioregular Polyhexylthiophene Blend Films for Photoelectrochemical Energy Applications	Ram, Manoj K.; Gomez, Humberto; Alvi, Farah; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	regioregular polyhexylthiophene, nanodiamond particles	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
567	2011	Chelating agent free-solid phase extraction (CAF-SPE) of Co(II), Cu(II) and Cd(II) by new nano hybrid material (ZrO ₂ /B ₂ O ₃)	Yalcinkaya, Ozcan; Kalfa, Orhan Murat; Turker, Ali Rehber	Engineering; Environmental Sciences & Ecology	ZrO ₂ , B ₂ O ₃ , Co(II), Cu(II), Cd(II)	Sensors/biosensors/electrochemical sensors	MMNH
568	2011	Facile Preparation of PbTiO ₃ Nanodot Arrays: Combining Nanohybridization with Vapor Phase Reaction Sputtering	Kim, Jiyeon; Hong, Jongin; Park, Moonkyu; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	PbTiO ₃ , PbO, TiO ₂	Synthesis of new nanohybrids/materials	MMNH
569	2011	Organo/layered double hydroxide nanohybrids used to remove non ionic pesticides	Chaaara, D.; Bruna, F.; Ulibarri, M. A.; et al.	Engineering; Environmental Sciences & Ecology	Alachlor, metochlor, Mg-Al LDH	Adsorption studies	OMCNH
570	2011	Selective antileukemia effect of stabilized nanohybrid vesicles based on cholesteryl succinyl silane	Ma, Yan; Dai, Zhifei; Zha, Zhengbao; et al.	Engineering; Materials Science	cholesteryl succinyl silane	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
571	2011	Liposomal architecture boosts biocompatibility of nanohybrid cerasomes	Ma, Yan; Dai, Zhifei; Gao, Yanguang; et al.	Science & Technology - Other Topics; Toxicology	Cerasome, silica	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
572	2011	Silver-clay nanohybrid structure for effective and diffusion-controlled antimicrobial activity	Girase, B.; Depan, D.; Shah, J. S.; et al.	Materials Science	Ag, nanocor (clay),	Antimicrobial/antibacterial applications	MMNH

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573	2011	Metal Nitride/Graphene Nanohybrids: General Synthesis and Multifunctional Titanium Nitride/Graphene Electrocatalyst	Wen, Zhenhai; Cui, Shumao; Pu, Haihui; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Graphene, titanium nitride	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
574	2011	Optical properties of thin nanohybrid films based on polyvinylcarbazole (PVK) and CdSe/ZnS quantum dots of core-shell type	Tugai, O. O.; Savvin, Yu. N.; Kryzhanovskaya, A. S.; et al.	Science & Technology - Other Topics; Physics	polyvinylcarbazole, CdSe ZnS QDs	Optical imaging and applications	MMNH
575	2011	Photosensitized Hydrogen Evolution from Water Using a Single-Walled Carbon Nanotube/Fullerodendron/SiO2 Coaxial Nanohybrid	Tajima, Tomoyuki; Sakata, Wakako; Wada, Takaaki; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, fullerodendron, SiO2	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
576	2011	Thermally Stable, Dye-Bridged Nanohybrid-Based White Light-Emitting Diodes	Kwak, Seung-Yeon; Yang, SeungCheol; Kim, Na Ree; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	N/A	N/A	N/A
577	2012	Nonorganic semiconductor - Conductive polymer intercalate nanohybrids: Fabrication, properties, application	Ivashchyshyn, F.; Grygorchak, I.; Stakhira, P.; et al.	Materials Science; Physics	InSe, poly(3,4-ethylenedioxythiophene) poly(styrenesulfonate)	Semiconductors/superconductors/conductive materials	OMCNH
578	2012	Porous SnO2/layered titanate nanohybrid with enhanced electrochemical performance for reversible lithium storage	Kang, Joo-Hee; Paek, Seung-Min; Choy, Jin-Ho	Chemistry	SnO2, titanate	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
579	2012	Engineering of a novel pluronic F127/graphene nanohybrid for pH responsive drug delivery	Hu, Haiqing; Yu, Jinhai; Li, Yongyong; et al.	Engineering; Materials Science	Graphene, pluronic F127	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
580	2012	Nanoparticle induced piezoelectric, super toughened, radiation resistant, multi-functional nanohybrids	Tiwari, Vimal K.; Shripathi, T.; Lalla, N. P.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	poly(vinylidene fluoride-co-chlorotrifluoroethylene), silicate	Crystallography and polymer crystallization	OMCNH
581	2012	Improvement of optical properties and thermal stability of poly vinyl alcohol using salicylic acid confined in nanohybrid material	Saber, O.	Polymer Science	poly vinyl alcohol, Zn-Al LDH	Optical imaging and applications	OMCNH
582	2012	Synthesis of well-dispersed polyimide/TiO2 nanohybrid films using a pyridine-containing aromatic diamine	Seyedjamali, Hojjat; Pirisedigh, Azadeh	Polymer Science	polyimide, TiO2	Synthesis of new nanohybrids/materials	OMCNH
583	2012	Facile synthesis of Ag/GNS-g-PAA nanohybrids for antimicrobial applications	Tai, Zhixin; Ma, Haibin; Liu, Bin; et al.	Biophysics; Chemistry; Materials Science	Graphene, Ag	Antimicrobial/antibacterial applications	CMNH
584	2012	Photocatalytic oxidation of water by polymeric carbon nitride nanohybrids made of sustainable elements	Zhang, Jinshui; Grzelczak, Marek; Hou, Yidong; et al.	Chemistry	Co3O4, Polymeric Carbon Nitride	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
585	2012	Thermodynamic interaction and mechanical characteristics of Nylon 6 and polyhedral oligomeric silsesquioxane nanohybrids	Lim, Sang-Kyun; Hong, Eun-Pyo; Song, Yu-Hyun; et al.	Materials Science	Nylon 6, polyhedral oligomeric silsesquioxane	Synthesis of new nanohybrids/materials	OMCNH

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586	2012	Synthesis of a Layered Organic-Inorganic Nanohybrid of 4-Chlorophenoxyacetate-zinc-Layered Hydroxide with Sustained Release Properties	Hussein, Mohd Zobir; Nazarudin, Nor Farhana Binti; Sarijo, Siti Halimah; et al.	Science & Technology - Other Topics; Materials Science	Zn layered hydroxide, 4-chlorophenoxy acetate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
587	2012	Fabrication of dumbbell-like CdTe/Au nanohybrids	Ma, Hongchao; Bai, Xiangtao; Zheng, Liqiang	Materials Science; Physics	CdTe quantum dots, Au	Synthesis of new nanohybrids/materials	MMNH
588	2012	Novel mesoporous NiO/HTiNbO ₅ nanohybrids with high visible-light photocatalytic activity and good biocompatibility	Zhai, Zheng; Yang, Xiaoyan; Xu, Lin; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	NiO, HTiNbO ₅	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
589	2012	ZnO/Ag nanohybrid: synthesis, characterization, synergistic antibacterial activity and its mechanism	Ghosh, Somnath; Goudar, V. S.; Padmalekha, K. G.; et al.	Chemistry	ZnO, Ag	Antimicrobial/antibacterial applications	MMNH
590	2012	Physical properties of a molecular conductor (BEDT-TTF)(2)I-3 nanohybridized with silica nanoparticles by dry grinding	Funabiki, Akira; Sugiyama, Hiroki; Mochida, Tomoyuki; et al.	Chemistry	bis(ethylenedithio) tetrathiafulvalene, silica	Synthesis of new nanohybrids/materials	OMCNH
591	2012	Facile fabrication of PtNP/MWCNT nanohybrid films for flexible counter electrode in dye-sensitized solar cells	Chang, Ling-Yu; Lee, Chuan-Pei; Huang, Kuan-Chieh; et al.	Chemistry; Materials Science	MWNT, Pt	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
592	2012	Biocompatible Magnetite/Gold Nanohybrid Contrast Agents via Green Chemistry for MRI and CT Bioimaging	Narayanan, Sreeja; Sathy, Binulal N.; Mony, Ullas; et al.	Science & Technology - Other Topics; Materials Science	Fe ₃ O ₄ , Au	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	MMNH
593	2012	Photoinduced charge separation in three-layer supramolecular nanohybrids: fullerene-porphyrin-SWCNT	D'Souza, Francis; Das, Sushanta K.; Sandanayaka, Atula S. D.; et al.	Chemistry; Physics	Fullerene, porphyrin, SWCNT	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
594	2012	Design of a Polymer-Carbon Nanohybrid Junction by Interface Modeling for Efficient Printed Transistors	Kim, Do Hwan; Shin, Hyeon-Jin; Lee, Hyo Sug; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, polymer semiconductors	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
595	2012	Corrosion behavior of nanohybrid titania silica composite coating on phosphated steel sheet	Guin, A. K.; Nayak, S. K.; Rout, T. K.; et al.	Chemistry; Materials Science	Titania, silica	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	MMNH
596	2012	Indigo/sepiolite nanohybrids: stability of natural pigments inspired by Maya blue	Giulieri, Françoise; Ovarlez, Sonia; Chaze, Anne-Marie	Science & Technology - Other Topics; Materials Science	Indigo, palygorskite, sepiolite	Synthesis of new nanohybrids/materials	MMNH
597	2012	A general green strategy for fabricating metal nanoparticles/polyoxometalate/graphene tri-component nanohybrids: enhanced electrocatalytic properties	Liu, Rongji; Li, Shiwen; Yu, Xuelian; et al.	Chemistry; Materials Science	Graphene, polyoxometalate, Pt, Pd	Catalytic/Photocatalytic/Electro catalytic applications	CMNH

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598	2012	Remarkable fluorescence enhancement in YVO4:Eu3+@Ag nano-hybrids induced by interface effect	Xu, Wen; Bai, Xue; Xu, Sai; et al.	Chemistry	YVO4, Eu3, Ag	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
599	2012	Plasmonic Molecular Nanohybrids-Spectral Dependence of Fluorescence Quenching	Olejnik, Maria; Bujak, Lukasz; Mackowski, Sebastian	Chemistry	Au, organic dyes	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
600	2012	Cell Mapping for Nanohybrid Circuit Architecture Using Genetic Algorithm	Chu, Zhu-Fei; Xia, Yin-Shui; Wang, Lun-Yao	Computer Science	N/A	N/A	N/A
601	2012	Synthesis and Study of Optical and Electrical Characteristics of Single-wall Carbon Nanotube/Gold Nanohybrid	Paul, Rima; Mitra, Apurba Krishna	Science & Technology - Other Topics; Materials Science; Physics	SWNT, Au	Optical imaging and applications	CMNH
602	2012	Intensification of electrochemiluminescence of luminol on TiO2 supported Au atomic cluster nano-hybrid modified electrode	Yu, Zhimin; Wei, Xiuhua; Yan, Jilin; et al.	Chemistry	TiO2, Au	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
603	2012	Plasmonic Ag/AgBr nanohybrid: synergistic effect of SPR with photographic sensitivity for enhanced photocatalytic activity and stability	Wang, Zhichao; Liu, Jinghai; Chen, Wei	Chemistry	Plasmonic Ag, AgBr	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
604	2012	Zeolite-Y encapsulated nanohybrid materials: synthesis, spectroscopic characterization, and catalytic significance	Modi, C. K.; Trivedi, Parthiv M.	Chemistry	Zeolite-Y, Mn(II), Co(II), Ni(II), Cu(II), vanillin thiophene-2-carboxylic hydrazone, vanillin furoic-2-carboxylic hydrazone)	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH
605	2012	Polydiacetylene Single-Walled Carbon Nanotubes Nano-Hybrid for Cellular Imaging Applications	Yang, Kwang Suk; Yun, Ji Sun; Kim, Jin Chul; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	SWNT, Polydiacetylene	Optical imaging and applications	OMCNH
606	2012	Green and controlled synthesis of Cu2O-graphene hierarchical nanohybrids as high-performance anode materials for lithium-ion batteries via an ultrasound assisted approach	Zhang, Yu; Wang, Xiao; Zeng, Liang; et al.	Chemistry	Graphene, Cu2O	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
607	2012	A nanohybrid system for taste masking of sildenafil	Lee, Ji-Hee; Choi, Goeun; Oh, Yeon-Ji; et al.	Science & Technology - Other Topics; Pharmacology & Pharmacy	Montmorillonite, sildenafil	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
608	2012	Facile Low-Temperature Synthesis of Carbon Nanotube/TiO2 Nanohybrids with Enhanced Visible-Light-Driven Photocatalytic Activity	Xie, Yunlong; Qian, Huanhuan; Zhong, Yijun; et al.	Chemistry; Energy & Fuels; Optical; Physics	Carbon nanotube, TiO2	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
609	2012	Fluorescent nanohybrids: quantum dots coupled to polymer recombinant protein conjugates for the recognition of biological hazards	Mansur, Herman Sander; Piscitelli Mansur, Alexandra Ancelmo	Chemistry; Materials Science	carboxylic functionalized poly(vinyl alcohol), semiconductors QDs	Sensors/biosensors/electrochemical sensors	OMCNH

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610	2012	Well-defined hydroxyapatite-polycation nanohybrids via surface-initiated atom transfer radical polymerization for biomedical applications	Cai, Q.; Zhu, Y.; He, J. Q.; et al.	Chemistry; Materials Science	Hydroxyapatite, (2-dimethyl amino) ethyl methacrylate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
611	2012	Free-standing liposomal nanohybrid cerasomes as ideal materials for sensing of cupric ions	Yue, Xiuli; Guo, Caixin; Jing, Yuanmiao; et al.	Chemistry	cerasomes with inorganic polyorganosiloxane	Sensors/biosensors/electrochemical sensors	OMCNH
612	2012	Thermoresponsive silver/polymer nanohybrids with switchable metal enhanced fluorescence	Liu, Jingquan; Li, Aihua; Tang, Jianguo; et al.	Chemistry	Ag, Poly(N-isopropylamide), polyacrylic acid	Sensors/biosensors/electrochemical sensors	OMCNH
613	2012	DNA-templated silver nanoclusters-graphene oxide nanohybrid materials: a platform for label-free and sensitive fluorescence turn-on detection of multiple nucleic acid targets	Tao, Yu; Lin, Youhui; Huang, Zhenzhen; et al.	Chemistry	Graphene oxide, DNA, Ag	Sensors/biosensors/electrochemical sensors	CMNH
614	2012	Efficacy and safety of nanohybrids comprising silver nanoparticles and silicate clay for controlling Salmonella infection	Chiao, Shu-Her; Lin, Siou-Hong; Shen, Ching-I; et al.	Science & Technology - Other Topics; Pharmacology & Pharmacy	Ag, silicate clay	Antimicrobial/antibacterial applications	MMNH
615	2012	A nanohybrid of graphene oxide-fluorescein derived silyl ether for photocurrent generation triggered by F ⁻ ions	Cheng, Lan-Ya; Zhou, Ji; Zou, Qi; et al.	Chemistry	Graphene oxide, fluorescein	Optical imaging and applications	CMNH
616	2012	Application of imogolite clay nanotubes in organic-inorganic nanohybrid materials	Ma, Wei; Yah, Weng On; Otsuka, Hideyuki; et al.	Chemistry; Materials Science	N/A	N/A	N/A
617	2012	Synthesis and characterisation of nanohybrids of olsalazine-intercalated Al-Mg layered double hydroxide	Nejati, Kamellia; Rezvani, Zolfaghar	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	olsalazine, Al-Mg LDH	Synthesis of new nanohybrids/materials	OMCNH
618	2012	Carbon-Dot-Based Dual-Emission Nanohybrid Produces a Ratiometric Fluorescent Sensor for In Vivo Imaging of Cellular Copper Ions	Zhu, Anwei; Qu, Qiang; Shao, Xiangling; et al.	Chemistry	CdSe/ZnS	Sensors/biosensors/electrochemical sensors	MMNH
619	2012	ZnO-Au nanohybrids by rapid microwave-assisted synthesis for CO oxidation	Kundu, Paromita; Singhania, Nisha; Madras, Giridhar; et al.	Chemistry	ZnO, Au	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
620	2012	Preparation and evaluation of well-defined hemocompatible layered double hydroxide-poly(sulfobetaine) nanohybrids	Hu, H.; Wang, X. B.; Xu, S. L.; et al.	Chemistry; Materials Science	zwitterionic 3-dimethyl(methacryloyloxyethyl) ammonium propane sulfonate, LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
621	2012	Pt-NP-MWNT nanohybrid as a robust and low-cost counter electrode material for dye-sensitized solar cells	Dao, Van-Duong; Ko, Seung Hyeon; Choi, Ho-Suk; et al.	Chemistry; Materials Science	MWNT, Pt	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
622	2012	Heterogeneous photocatalytic removal and reaction kinetics of Rhodamine-B dye with Au loaded TiO ₂ nanohybrid catalysts	Zhang, Dongfang	Chemistry; Engineering	Au, TiO ₂	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
623	2012	Semiconducting carbon nanotube and covalent organic polyhedron-C-60 nanohybrids for light harvesting	Lohrman, Jessica; Zhang, Chenxi; Zhang, Wei; et al.	Chemistry	Fullerene, SWNT dicarbazolylacetylene	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CCNH
624	2012	Nanostructure controlled anti-cancer drug delivery using poly(epsilon-caprolactone) based nanohybrids	Singh, Narendra K.; Singh, Sunil K.; Dash, Debabrata; et al.	Chemistry; Materials Science	Poly(epsilon-caprolactone), montmorillonite, dexamethasone (anticancer drug)	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
625	2012	Molecular cluster batteries of nanohybrid materials between Keggin POMs and SWNTs	Wang, Heng; Kawasaki, Naoya; Yokoyama, Toshihiko; et al.	Chemistry	SWNT, polyoxometalates	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
626	2012	Biomimetic graphene-FePt nanohybrids with high solubility, ferromagnetism, fluorescence, and enhanced electrocatalytic activity	Wei, Gang; Zhang, Yue; Steckbeck, Sascha; et al.	Chemistry; Materials Science	Graphene, FePt	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
627	2012	Three-dimensional nanohybrids of Mn ₃ O ₄ /ordered mesoporous carbons for high performance anode materials for lithium-ion batteries	Li, Zhaoqiang; Liu, Ningning; Wang, Xuekun; Wang, Changbin; Qi, Yongxin; Yin, Longwei	Chemistry; Materials Science	N/A	N/A	N/A
628	2012	Organic-inorganic nanohybrid nonvolatile memory transistors for flexible electronics	Han, Kyu Seok; Park, Yerok; Han, Gibok; Lee, Byoung Hoon; Lee, Kwang Hyun; Son, Dong Hee; Im, Seongil; Sung, Myung Mo	Chemistry; Materials Science	N/A	N/A	N/A
629	2012	Nitrogen-doped mesoporous nanohybrids of TiO ₂ nanoparticles and HTiNbO ₅ nanosheets with a high visible-light photocatalytic activity and a good biocompatibility	Zhai, Zheng; Hu, Chenhui; Yang, Xiaoyan; Zhang, Lihong; Liu, Chao; Fan, Yining; Hou, Wenhua	Chemistry; Materials Science	TiO ₂ , HTiNbO ₅ nanosheets	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	MMNH
630	2012	Bioadhesion-inspired polymer-inorganic nanohybrid membranes with enhanced CO ₂ capture properties	Li, Yifan; Wang, Shaofei; Wu, Hong; Wang, Jingtao; Jiang, Zhongyi	Chemistry; Materials Science	N/A	N/A	N/A
631	2012	Kaolinite-ionic liquid nanohybrid materials as electrochemical sensors for size-selective detection anions	Dedzo, Gustave Kenne; Letaief, Sadok; Detellier, Christian	Chemistry; Materials Science	Grafting ionic liquids (trihydroxyethylmethylammonium iodide (AE1), 1-(2-hydroxyethyl)-3-methylimidazolium chloride (AE2) and 1-benzyl-3-(2-hydroxyethyl) imidazolium chloride (AE3) , kaolinite	Sensors/biosensors/electrochemical sensors	OMCNH
632	2012	Oxazine-1 J-aggregates in polymer nanohybrids	Giovanella, Umberto; Leone, Giuseppe; Ricci, Giovanni; Virgili, Tersilla; Lopez, Inma Suarez; Rajendran, Sai Kiran; Botta, Chiara	Chemistry; Physics	poly(norbornene)/oxazine-1	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH

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633	2012	The synergistic behavior of polyoxometalates and metal nanoparticles: from synthetic approaches to functional nanohybrid materials	Mitchell, Scott G.; de la Fuente, Jesus M.	Chemistry; Materials Science	N/A	N/A	N/A
634	2012	Silica-coated flexible liposomes as a nanohybrid delivery system for enhanced oral bioavailability of curcumin	Li, Chong; Zhang, Yan; Su, Tingting; Feng, Lianlian; Long, Yingying; Chen, Zhangbao	Science & Technology - Other Topics; Pharmacology & Pharmacy	silica-coated flexible liposomes loaded with curcumin	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
635	2012	Visible-light plasmonic photocatalyst anchored on titanate nanotubes: a novel nanohybrid with synergistic effects of adsorption and degradation	Tang, Yuxin; Jiang, Zhelong; Tay, Qiuling; Deng, Jiyang; Lai, Yuekun; Gong, Dangguo; Dong, Zhili; Chen, Zhong	Chemistry	Ag, Cl, Br, I, titanate nanotubes	Adsorption studies	MMNH
636	2012	Preparation of organic-inorganic (SWCNT/TWEEN-TEOS) nano hybrids and their NO gas sensing properties	Yu, Ming-Ru; Suyambrakasam, Gobalakrishnan; Wu, Ren-Jang; et al.	Chemistry; Electrochemistry; Instruments & Instrumentation	SWNT, polyoxyethylene (20) sorbitan monooleate, tetraethoxy orthosilicate	Sensors/biosensors/electrochemical sensors	OMCNH
637	2012	Celiac disease detection using a transglutaminase electrochemical immunosensor fabricated on nanohybrid screen-printed carbon electrodes	Neves, Marta M. P. S.; Gonzalez-Garcia, Maria Begona; Nouws, Henri P. A.; et al.	Biophysics; Biotechnology & Applied Microbiology; Chemistry; Electrochemistry; Science & Technology - Other Topics	Carbon nanotubes and gold nanoparticles	Sensors/biosensors/electrochemical sensors	CMNH
638	2012	Ultrasensitive indicator-free and enhanced self-signal nanohybrid DNA sensing platform based on electrochemically grown poly-xanthurenic acid/Fe2O3 membranes	Zhang, Wei; Yang, Tao; Jiao, Kui	Biophysics; Biotechnology & Applied Microbiology; Chemistry; Electrochemistry; Science & Technology - Other Topics	poly-xanthurenic acid/Fe2O3	Sensors/biosensors/electrochemical sensors	OMCNH
639	2012	Graphene Oxide-Based Supramolecular Hydrogels for Making Nanohybrid Systems with Au Nanoparticles	Adhikari, Bimalendu; Biswas, Abhijit; Banerjee, Arindam	Chemistry; Materials Science	Graphene oxide, au	Synthesis of new nanohybrids/materials	CMNH
640	2012	Nanohybrid systems of non-ionic surfactant inserting liposomes loading paclitaxel for reversal of multidrug resistance	Ji, Xiufeng; Gao, Yu; Chen, Lingli; et al.	Pharmacology & Pharmacy	non-ionic surfactant (Solutol (R) HS 15 (HS-15), pluronic F68 (PF-68) and cremophor EL (CrEL)) inserting liposomes loading paclitaxel	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
641	2012	Molecular design of nanohybrid gas separation membranes for optimal CO2 separation	Lau, Cher Hon; Paul, Donald R.; Chung, Tai Shung	Polymer Science	N/A	N/A	N/A
642	2012	Nanohybrid and microfilled hybrid versus conventional hybrid composite restorations: 5-year clinical wear performance	Palaniappan, Senthamariselvi; Elsen, Liesbeth; Lijnen, Inge; et al.	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A

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643	2012	Fibrous membrane of nano-hybrid poly-L-lactic acid/silica xerogel for guided bone regeneration	Jang, Tae-Sik; Lee, Eun-Jung; Jo, Ji-Hoon; et al.	Engineering; Materials Science	poly-L-lactic acid, silica	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
644	2012	The mechanical stability of nano-hybrid composites with new methacrylate monomers for matrix compositions	Schmidt, Christine; Ilie, Nicoleta	Dentistry, Oral Surgery & Medicine; Materials Science	N/A	N/A	N/A
645	2012	Magnetic-fluorescent nanohybrids of carbon nanotubes coated with Eu, Gd Co-doped LaF3 as a multimodal imaging probe	Chen, Bingdi; Zhang, Hui; Du, Ning; et al.	Chemistry	MWNT, Eu, Gd, LaF3	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CMNH
646	2012	Crystallisation of nanohybrids of poly(epsilon-caprolactone) and hydroxycitric acid containing antimicrobial species	Pucciariello, R.; Villani, V.; Giammarino, G.	Materials Science; Polymer Science	poly(epsilon-caprolactone) and hydroxycitric acid	Antimicrobial/antibacterial applications	OMCNH
647	2012	Scanning transmission X-ray microscopy, X-ray photoelectron spectroscopy, and cyclic voltammetry study on the enhanced visible photocatalytic mechanism of carbon-TiO2 nanohybrids	Ming, Hai; Zhang, Hengchao; Ma, Zheng; et al.	Chemistry; Materials Science; Physics	Carbon, TiO2	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
648	2012	Charge transfer and retention in directly coupled Au-CdSe nanohybrids	Gao, Bo; Lin, Yue; Wei, Sijie; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Au-CdSe	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
649	2012	Silica encapsulation of luminescent silicon nanoparticles: stable and biocompatible nanohybrids	Maurice, Vincent; Rivolta, Ilaria; Vincent, Julien; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Silica nanoparticles and nanocrystals	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
650	2012	Morphology study of layered silicate/chitosan nanohybrids	Potarniche, C. G.; Vuluga, Z.; Donescu, D.; et al.	Chemistry	Chitosan, montmorillonite	Synthesis of new nanohybrids/materials	OMCNH
651	2012	Integrating Water-Soluble Graphene into Porphyrin Nanohybrids	Malig, J.; Romero-Nieto, C.; Jux, N.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Graphene, porphyrin	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
652	2012	Superhydrophobic Graphene/Nafion Nanohybrid Films with Hierarchical Roughness	Choi, Bong Gill; Park, Ho Seok	Chemistry; Science & Technology - Other Topics; Materials Science	Graphene, nafion	Optical imaging and applications	OMCNH
653	2012	The synthesis and properties of ZnO-graphene nano hybrid for photodegradation of organic pollutant in water	Fu, Dongying; Han, Gaoyi; Chang, Yunzhen; et al.	Materials Science	Graphene, ZnO	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
654	2012	Thermal properties of biodegradable poly(PHB/PCL-PEG-PCL) urethanes nanocomposites using clay/poly(epsilon-caprolactone) nanohybrid based masterbatch	Naguib, Hala F.; Aziz, Mohamed S. Abdel; Sherif, Sherif M.; et al.	Chemistry; Materials Science; Mineralogy	clay/poly(epsilon-caprolactone)	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH

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655	2012	Silver nanoparticle (AgNPs) doped gum acacia-gelatin-silica nanohybrid: An effective support for diastase immobilization	Singh, Vandana; Ahmed, Shakeel	Biochemistry & Molecular Biology	gum acacia-gelatin-silica	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
656	2012	Study of the preparation, properties and kinetics of anion release in drug intercalated magnetic nanohybrids	Panda, H. S.; Bahadur, D.	Materials Science	Fe ₃ O ₄ , LDH, fluvastatin	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
657	2012	Condensation/Hydrogenation of Biomass-Derived Oxygenates in Water/Oil Emulsions Stabilized by Nanohybrid Catalysts	Zapata, Paula A.; Faria, Jimmy; Ruiz, M. Pilar; et al.	Chemistry	SWNT, MWNT, MgO	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
658	2012	Optimized CVD Production of CNT-Based Nanohybrids by Taguchi Robust Design	Santangelo, S.; Lanza, M.; Piperopoulos, E.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	CNTs and alumina, magnesia or sodium-exchanged montmorillonite	Synthesis of new nanohybrids/materials	CMNH
659	2012	Tribological Properties of Polymer Nanohybrids Containing Gold Nanoparticles Obtained by Laser Ablation	Olea-Mejia, Oscar; Brostow, Witold; Escobar-Alarcon, Luis; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Polystyrene, Au	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
660	2012	Nanohybrids based on polymeric ionic liquid prepared from functionalized MWCNTs by modification of anionically synthesized poly(4-vinylpyridine)	Katsigiannopoulos, Dimitrios; Grana, Eftychia; Aygeropoulos, Apostolos; et al.	Polymer Science	MWNT, poly(4-vinylpyridine)	Synthesis of new nanohybrids/materials	OMCNH
661	2012	Electropolymerized surface ion imprinting films on a gold nanoparticles/single-wall carbon nanotube nanohybrids modified glassy carbon electrode for electrochemical detection of trace mercury(II) in water	Fu, Xu-Cheng; Wu, Ju; Nie, Li; et al.	Chemistry	SWNT, Au	Sensors/biosensors/electrochemical sensors	CMNH
662	2012	A highly sensitive non-enzymatic glucose sensor based on nickel and multi-walled carbon nanotubes nanohybrid films fabricated by one-step co-electrodeposition in ionic liquids	Sun, Aili; Zheng, Jianbin; Sheng, Qinglin	Electrochemistry	MWNT, Ni	Sensors/biosensors/electrochemical sensors	CMNH
663	2012	Collagen-silica xerogel nanohybrid membrane for guided bone regeneration	Lee, Eun-Jung; Jun, Shin-Hee; Kim, Hyoun-Ee; et al.	Engineering; Materials Science	Collagen, silica	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
664	2012	beta-Cyclodextrin-Platinum Nanoparticles/Graphene Nanohybrids: Enhanced Sensitivity for Electrochemical Detection of Naphthol Isomers	Zhu, Gangbing; Gai, Pengbo; Wu, Liang; et al.	Chemistry	graphene, beta-Cyclodextrin, Pt	Sensors/biosensors/electrochemical sensors	CMNH
665	2012	Use of nanohybrid materials as electrochemical transducers for mercury sensors	Martin-Yerga, Daniel; Begona Gonzalez-Garcia, Maria; Costa-Garcia, Agustin	Chemistry; Electrochemistry; Instruments & Instrumentation	Carbon nanotube, Au	Sensors/biosensors/electrochemical sensors	CMNH

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666	2012	Synthesis of a monophasic nanohybrid for a controlled release formulation of two active agents simultaneously	Hussein, Mohd Zobir; Rahman, Nor Shazlirah Shazlyn Abdul; Sarijo, Siti Halimah; et al.	Chemistry; Materials Science; Mineralogy	4-(2,4-dichlorophenoxy)butyrate (DPBA), 2-(3-chlorophenoxy)propionate	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
667	2012	Organic/Metallic Nanohybrids Based on Amphiphilic Dumbbell-Shaped Dendrimers	Shau, Shi-Min; Chang, Chia-Cheng; Lo, Chia-Hao; et al.	Science & Technology - Other Topics; Materials Science	poly(oxyalkylene), 4-isocyanate-4'-(3,3-dimethyl-2,4-dioxo-azetidene)-diphenylmethane	Synthesis of new nanohybrids/materials	OMCNH
668	2012	Amphiphilic Nanohybrid Catalysts for Reactions at the Water/Oil Interface in Subsurface Reservoirs	Drexler, Santiago; Faria, Jimmy; Ruiz, M. Pilar; et al.	Energy & Fuels; Engineering	SWCNT/silica	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
669	2012	Dispersion and STM Characterization of Au-CdSe Nanohybrids on Au(111)	Gao, Bo; Kuang, Yan-min; Liao, Yuan; et al.	Physics	Au, CdSe	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
670	2012	Voltammetric and amperometric determination of hydrogen peroxide using a carbon-ceramic electrode modified with a nanohybrid composite made from single-walled carbon nanotubes and silver nanoparticles	Habibi, Biuck; Jahanbakhshi, Mojtaba; Pournaghi-Azar, Mohammad Hossein	Chemistry	SWNT, Ag	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
671	2012	Self-assembly of novel architectural nanohybrid multilayers and their selective separation of solvent-water mixtures	Zhang, Guojun; Li, Jie; Ji, Shulan	Engineering	poly(sodium styrene sulfonate), ZrO ₂	Membrane research, gas removal, pollutant remediation	OMCNH
672	2012	Preparation and biocompatibility of nanohybrid scaffolds by in situ homogeneous formation of nano hydroxyapatite from biopolymer polyelectrolyte complex for bone repair applications	Chen, Jingdi; Yu, Qifeng; Zhang, Guodong; et al.	Biophysics; Chemistry; Materials Science	hydroxyapatite, polyelectrolyte	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
673	2012	Self-assembled quantum dots-polyhedral oligomeric silsesquioxane nanohybrids with enhanced photoluminescence	Li, Qi; Dong, Lijie; Wang, Xiang; et al.	Science & Technology - Other Topics; Materials Science; Metallurgy & Metallurgical Engineering	polyhedral oligomeric silsesquioxane-modified quantum dots	Fluorescence/luminescence/photoluminescence, light-energy harvesting	OMCNH
674	2012	Plasma Functionalization of Multiwalled Carbon Nanotubes and Their Use in the Preparation of Nylon 6-Based Nanohybrids	Scaffaro, Roberto; Maio, Andrea; Agnello, Simonpietro; et al.	Physics; Polymer Science	MWNT, polyamide 6	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
675	2012	Novel and Sensitive Ethanol Chemi-Sensor Based on Nanohybrid Materials	Khan, Sher Bahadar; Rahman, Mohammed M.; Akhtar, Kalsoom; et al.	Electrochemistry	poly propylene carbonate, silica	Sensors/biosensors/electrochemical sensors	OMCNH
676	2012	Surface modification of gold-carbon nanotube nanohybrids under the influence of near-infrared laser exposure	Schrand, Amanda M.; Stacy, Bradley M.; Hussain, Saber M.; et al.	Engineering; Science & Technology - Other Topics; Physics	SWNT, Au	Synthesis of new nanohybrids/materials	CMNH

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677	2012	Facile Synthesis of Au-Nanoparticle/Polyoxometalate/Graphene Tricomponent Nanohybrids: An Enzyme-Free Electrochemical Biosensor for Hydrogen Peroxide	Liu, Rongji; Li, Shiwen; Yu, Xuelian; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	Graphene, Au, Polyoxometalate	Sensors/biosensors/electrochemical sensors	CMNH
678	2012	Magnetically Responsive Inorganic/Polydiacetylene Nanohybrids	Lee, Joosub; Yoon, Bora; Ham, Dae-Young; et al.	Polymer Science	polydiacetylene, magnetite	Sensors/biosensors/electrochemical sensors	OMCNH
679	2012	Synthesis and characterization of one-dimensional magnetic photocatalytic CNTs/Fe ₃ O ₄ -ZnO nanohybrids	Sui, Jiehe; Li, Jing; Li, Zhiguo; et al.	Materials Science	Carbon nanotubes, Fe ₃ O ₄ , ZnO	Catalytic/Photocatalytic/Electrocatalytic applications	CMNH
680	2012	Highly Transparent and Multifunctional Polymer Nanohybrid Film with Superhigh ZnO Content Synthesized by a Bulk Polymerization Method	Liu, Hai-Tao; Zeng, Xiao-Fei; Zhao, Hong; et al.	Engineering	ZnO, poly(n-butyl methacrylate)	Transparent and conductive films	OMCNH
681	2012	Synthesis and Characterization of a Noble Metal Enhanced Optical Nanohybrid (NEON): A High Brightness Detection Platform Based on a Dye-Doped Silica Nanoparticle	Roy, Shibsekhar; Dixit, Chandra K.; Woolley, Robert; et al.	Chemistry; Materials Science	Au, dye-doped silica	Optical imaging and applications	MMNH
682	2012	Adsorption of arsenic on multiwall carbon nanotube-zirconia nanohybrid for potential drinking water purification	Ntim, Susana Addo; Mitra, Somenath	Chemistry	MWNT, zirconia	Adsorption studies	CMNH
683	2012	Formation of a nanohybrid composite between mesostructured cellular silica foam and microporous copper trimesate	Seo, You-Kyong; Yoon, Ji Woong; Lee, U-Hwang; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	N/A	N/A	N/A
684	2012	Zeolite-Y based nanohybrid materials: Synthesis, characterization and catalytic aspects	Modi, Chetan K.; Trivedi, Parthiv M.	Chemistry; Science & Technology - Other Topics; Materials Science	salicylaldehyde thiophene-2-carboxylic hydrazone, salicylaldehyde furoic-2-carboxylic hydrazone, Ru(III), Fe(III)	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
685	2012	Mannosylated Polyethyleneimine-Hyaluronan Nanohybrids for Targeted Gene Delivery to Macrophage-Like Cell Lines	Mahor, Sunil; Dash, Biraja C.; O'Connor, Stephen; et al.	Biochemistry & Molecular Biology; Chemistry	Mannosylated Polyethyleneimine, Hyaluronan	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
686	2012	COIMMOBILIZATION OF ACETYLCHOLINESTERASE AND CHOLINE OXIDASE ON NEW NANOHYBRID MEMBRANES OBTAINED BY SOL GEL TECHNOLOGY	Yotova, Lyubov; Medhat, Nourelhoda	Biotechnology & Applied Microbiology	Acetylcholinesterase, choline oxidase, SiO ₂	Sensors/biosensors/electrochemical sensors	OMCNH
687	2012	ZnO/Liquid Crystalline Nanohybrids: From Properties in Solution to Anisotropic Growth	Saliba, Sarmenio; Coppel, Yannick; Mingotaud, Christophe; et al.	Chemistry	ZnO, liquid crystals	Synthesis of new nanohybrids/materials	MMNH

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688	2012	Immediate vs Delayed Repair Bond Strength of a Nanohybrid Resin Composite	El-Askary, Farid S.; El-Banna, Ahmed H.; van Noort, Richard	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
689	2012	Herbicide-Intercalated Zinc Layered Hydroxide Nanohybrid for a Dual-Guest Controlled Release Formulation	Hussein, Mohd Zobir; Rahman, Nor Shazlirah Shazlyn Abdul; Sarijo, Siti H.; et al.	Chemistry	4-(2,4-dichlorophenoxy) butyrate, 2-(3-chlorophenoxy) propionate, Zinc LH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
690	2012	Nanohybrids of Silver Particles Immobilized on Silicate Platelet for Infected Wound Healing	Chu, Chia-Yu; Peng, Fu-Chuo; Chiu, Ying-Fang; et al.	Life Sciences & Biomedicine - Other Topics	Ag, silica plateletes	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	MMNH
691	2012	Pyrene-POSS nanohybrid as a dispersant for carbon nanotubes in solvents of various polarities: its synthesis and application in the preparation of a composite membrane	Majeed, Shahid; Filiz, Volkan; Shishatskiy, Sergey; et al.	Science & Technology - Other Topics; Materials Science; Physics	pyrene, polyhedral oligomeric silsesquioxanes, MWNT	Semiconductors/superconductor s/conductive materials	OMCNH
692	2012	Nano-hybrid carboxymethyl-hexanoyl chitosan modified with (3-aminopropyl)triethoxysilane for camptothecin delivery	Hsiao, Meng-Hsuan; Tung, Tsan-Hua; Hsiao, Chi-Sheng; et al.	Chemistry; Polymer Science	carboxymethyl, hexanoyl chitosan, (3-aminopropyl)triethoxysilane	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
693	2012	Ketoprofen-LDH Nanohybrid for Transdermal Drug Delivery System	Park, Myung-Chul; Kim, Hark; Park, Dae-Hwan; et al.	Chemistry	Ketoprofen, LDH	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
694	2012	Photophysical properties of fluorescent PMMA/SiO ₂ nanohybrids for solar energy applications	El-Bashir, S. M.	Optical	poly(methylmethacrylate), SiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
695	2012	Synthesis, amine functionalization and dye removal ability of titania/silica nano-hybrid	Mahmoodi, Niyaz Mohammad; Najafi, Farhood	Chemistry; Science & Technology - Other Topics; Materials Science	Titania, silica	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
696	2012	Hydroxyapatite-poly(L-lactide) nanohybrids via surface-initiated ATRP for improving bone-like apatite-formation abilities	He, Jiqing; Yang, Xiaoping; Mao, Jiaofu; et al.	Chemistry; Materials Science; Physics	Hydroxyapatite-poly(L-lactide)	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
697	2012	Heterostructured zero valent iron-montmorillonite nanohybrid and their catalytic efficacy	Son, You-Hwan; Lee, Jung-Kun; Soong, Yee; et al.	Chemistry; Materials Science; Mineralogy	Fe, montmorillonite	Catalytic/Photocatalytic/Electro catalytic applications	MMNH
698	2012	Glycolic acid-g-chitosan-Pt-Fe ₃ O ₄ nanoparticles nanohybrid scaffold for tissue engineering and drug delivery	Kumari, Sangeeta; Singh, Raj Pal	Biochemistry & Molecular Biology	Glycolic acid-g-chitosan-Pt-Fe ₃ O ₄	Delivery Carriers, and Controlled Release of Drugs/Compounds	OMCNH
699	2012	Environmentally Friendly Photocatalytic Synthesis of Porphyrin/Ag Nanoparticles/Reduced Graphene Oxide Ternary Nanohybrids Having Superior Catalytic Activity	Li, Haiyan; Zhang, Yingwei; Chang, Guohui; et al.	Chemistry	Reduced graphene oxide, Ag, porphyrin	Catalytic/Photocatalytic/Electro catalytic applications	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
700	2012	NANOHYBRID POLYURETHANE/FUNCTIONALIZED SILSESQUOXANE SYSTEMS. Part I. STRUCTURAL INVESTIGATIONS USING FT-IR AND NMR METHODS	Janowski, Bartlomiej; Pielichowski, Krzysztof	Polymer Science	polyurethane, functionalized silsesquioxane	Synthesis of new nanohybrids/materials	OMCNH
701	2012	Pt Nanoparticle-Reduced Graphene Oxide Nanohybrid for Proton Exchange Membrane Fuel Cells	Park, Dae-Hwan; Jeon, Yukwon; Ok, Jinhee; et al.	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Carbon Nanotube, Pt	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
702	2012	Transparent Anti-Stain Coatings with Good Thermal and Mechanical Properties Based on Polyimide-Silica Nanohybrids	Choi, Myeon-Cheon; Sung, Giju; Nagappan, Saravanan; et al.	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Pt, reduced graphene oxide	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
703	2012	A Hydrophobic Dye-Encapsulated Nano-Hybrid as an Efficient Fluorescent Probe for Living Cell Imaging	Chang, Shu; Wu, Xumeng; Li, Yongsheng; et al.	Materials Science	Polyimide, SiO ₂	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
704	2012	Highly Catalytic Carbon Nanotube/Pt Nanohybrid-Based Transparent Counter Electrode for Efficient Dye-Sensitized Solar Cells	Chen, Hong-Yan; Liao, Jin-Yun; Lei, Bing-Xin; et al.	Chemistry	CNT, Pt	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
705	2012	Plasmon-controlled narrower and blue-shifted fluorescence emission in (Au@SiO ₂)SiC nanohybrids	Sui, Ning; Monnier, Virginie; Zakharko, Yuriy; et al.	Chemistry; Science & Technology - Other Topics; Materials Science	Au, SiO ₂	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
706	2012	C/TiO ₂ nanohybrids co-doped by N and their enhanced photocatalytic ability	Ming, Hai; Huang, Hui; Pan, Keming; et al.	Chemistry	carbon, TiO ₂	Catalytic/Photocatalytic/Electro catalytic applications	CMNH
707	2012	Ultrafast Photoinduced Charge Separation in Metal-Semiconductor Nanohybrids	Mongin, D; Shaviv, E; Maioli, P; Crut, A; Banin, U; Del Fatti, N; Vallee, F	Chemistry; Science & Technology - Other Topics; Materials Science	Au, CdS	Semiconductors/superconductor s/conductive materials	MMNH
708	2012	A General Approach to One-Pot Fabrication of Crumpled Graphene-Based Nanohybrids for Energy Applications	Mao, S; Wen, ZH; Kim, H; Lu, GH; Hurley, P; Chen, JH	Chemistry; Science & Technology - Other Topics; Materials Science	Graphene oxide, graphene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
709	2012	Clinical Evaluation of a Nanohybrid and a Flowable Resin Composite in Non-carious Cervical Lesions: 24-Month Results	Karaman, E; Yazici, AR; Ozgunaltay, G; Dayangac, B	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A

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710	2012	Injectable and Biodegradable Nanohybrid Polymers with Simultaneously Enhanced Stiffness and Toughness for Bone Repair	Cai, Lei; Chen, Jihua; Rondinone, Adam J.; et al.	Chemistry; Science & Technology - Other Topics; Materials Science; Physics	poly(propylene fumarate)-co-polyhedral oligomeric silsesquioxane	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
711	2012	Dual-emission of a fluorescent graphene oxide-quantum dot nanohybrid for sensitive and selective visual sensor applications based on ratiometric fluorescence	Zhu, Houjuan; Zhang, Wen; Zhang, Kui; et al.	Science & Technology - Other Topics; Materials Science; Physics	Graphene, CdTe QDs	Sensors/biosensors/electrochemical sensors	CMNH
712	2012	Synthesis and characterization of model silica-gold core-shell nanohybrid systems to demonstrate plasmonic enhancement of fluorescence	Roy, S; Dixit, CK; Woolley, R; O'Kennedy, R; McDonagh, C	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Au, silica	Fluorescence/luminescence/photoluminescence, light-energy harvesting	MMNH
713	2012	Amperometric sensor for nitrite using a glassy carbon electrode modified with thionine functionalized MWCNTs/Au nanorods/SDS nanohybrids	Zhang, Yu; Yuan, Ruo; Chai, Yaqin; et al.	Chemistry	MWNT, Au, sodium dodecyl sulfate	Sensors/biosensors/electrochemical sensors	CMNH
714	2012	CSA doped polyaniline/CdS organic-inorganic nanohybrid: Physical and gas sensing properties	Raut, B. T.; Chougule, M. A.; Nalage, S. R.; et al.	Materials Science	polyaniline, CdS	Sensors/biosensors/electrochemical sensors	OMCNH
715	2012	Functionalization of polyhedral oligomeric silsesquioxanes with bis(hydroxyethyl) ester and preparation of the corresponding degradable nanohybrids	Wang, Bing Tao; Zhang, Yan; Zhang, Ping; et al.	Chemistry	polyhedral oligomeric silsesquioxanes, bis(hydroxyethyl) ester	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
716	2012	Formation of aggregates in nanohybrid material of dye molecules-titanate nanosheets	Tsurumachi, Noriaki; Okamoto, Hiroki; Ishii, Kenta; et al.	Chemistry	titanate, rhodamine 6g, pseudoisocyanine	Optical imaging and applications	OMCNH
717	2012	Carbon nanotube-polyaniline nanohybrids: Influence of the carbon nanotube characteristics on the morphological, spectroscopic, electrical and thermoelectric properties	King, Roch Chan Yu; Roussel, Frederick; Brun, Jean-Francois; et al.	Materials Science; Physics; Polymer Science	Carbon nanotube-polyaniline	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
718	2012	Enhanced Electrochemical Sensing for Persistent Organic Pollutants by Nanohybrids of Graphene Nanosheets that are Noncovalently Functionalized with Cyclodextrin	Zhu, GB; Zhang, XH; Gai, PB; Chen, JH	Chemistry, Multidisciplinary	Graphene, cyclodextrin	Sensors/biosensors/electrochemical sensors	OMCNH
719	2012	The effect of titania content on the physical properties of polyimide/titania nanohybrid films	Kizilkaya, Canan; Dumludag, Fatih; Karatas, Sevim; et al.	Polymer Science	polyimide, titania	Synthesis of new nanohybrids/materials	OMCNH
720	2012	Facilitating the formation of nanohybrid shish kebab structure in helical polymer systems by using carbon nanotube bundles	Ning, NY; Zhang, W; Zhao, YS; Tang, CY; Yang, MB; Fu, Q	Polymer Science	SWNT, helical polymer	Crystallography and polymer crystallization	OMCNH

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721	2012	Preparation, characterization, and properties of novel biodegradable aliphatic-aromatic copolyester nanohybrids with polyhedral oligomeric silsesquioxanes moieties	Wang, Bing-Tao; Zhang, Yan; Zhang, Ping; et al.	Polymer Science	aliphatic, aromatic copolyester, polyhedral oligomeric silsesquioxanes	Synthesis of new nanohybrids/materials	OMCNH
722	2012	Depth of cure and mechanical properties of nano-hybrid resin-based composites with novel and conventional matrix formulation	Frauscher, KE; Ilie, N	Dentistry, Oral Surgery & Medicine	N/A	N/A	N/A
723	2012	Ultrasensitive photoelectrochemical sensing of nicotinamide adenine dinucleotide based on graphene-TiO ₂ nanohybrids under visible irradiation	Wang, K; Wu, J; Liu, Q; Jin, YC; Yan, JJ; Cai, JR	Chemistry, Analytical	Graphene, TiO ₂	Sensors/biosensors/electrochemical sensors	CMNH
724	2012	Layer-by-layer assembled nanohybrid multilayer membranes for pervaporation dehydration of acetone-water mixtures	Li, J; Zhang, GJ; Ji, SL; Wang, NX; An, W	Engineering, Chemical; Polymer Science	N/A	N/A	N/A
725	2012	Facile Synthesis of an Ag ₂ O-ZnO Nanohybrid and Its High Photocatalytic Activity	Wu, M; Yan, JM; Zhao, M; Jiang, Q	Chemistry, Multidisciplinary	Ag ₂ O, ZnO	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
726	2012	Preparation of a Responsive Carbohydrate-Coated Biointerface Based on Graphene/Azido-Terminated Tetrathiafulvalene Nanohybrid Material	Kaminska, I; Barras, A; Coffinier, Y; Lisowski, W; Roy, S; Niedziolka-Jonsson, J; Woisel, P; Lyskawa, J; Opallo, M; Siriwardena, A; Boukherroub, R; Szunerits, S	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Graphene, azido-terminated tetrathiafulvalene	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
727	2012	Low-Temperature Fabrication of Au-Co Cluster Mixed Nanohybrids With High Magnetic Moment of Co	Zhang, DF; Zhang, Q; Huang, WF; Guo, L; Chen, WM; Chu, WS; Chen, CP; Wu, ZY	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Au, Co	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
728	2012	Synthesis, structural analysis and in situ transmission electron microscopy mechanical tests on individual aluminum matrix/boron nitride nanotube nanohybrids	Yamaguchi, M; Tang, DM; Zhi, CY; Bando, Y; Shtansky, D; Golberg, D	Materials Science, Multidisciplinary; Metallurgy & Metallurgical Engineering	Boron nitride, alumina	Synthesis of new nanohybrids/materials	MMNH
729	2012	Ultrasonic synthesis of CoO/graphene nanohybrids as high performance anode materials for lithium-ion batteries	Chen, BD; Peng, CX; Cui, Z	Metallurgy & Metallurgical Engineering	Graphene, CoO	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
730	2012	Morphological, Dielectric and Electrical Conductivity Characteristics of Clay-Containing Nanohybrids of Poly(N-Vinyl Carbazole) and Polypyrrole	Haldar, I; Biswas, M; Nayak, A; Ray, SS	Chemistry; Science & Technology - Other Topics; Materials Science	Poly(N-vinyl carbazole) (PNVC) and polypyrrole (PPY)-montmorillonite (MMT)	Semiconductors/superconductors/conductive materials	OMCNH
731	2012	High performance PA6/CNTs nanohybrid fibers prepared in the melt	Scaffaro, R; Maio, A; Tito, AC	Materials Science, Composites	MWNT, polyamide 6	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH

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732	2012	DNA Oligonucleotide Templated Nanohybrids Using Electronic Type Sorted Carbon Nanotubes for Light Harvesting	Zhang, HY; Baker, BA; Cha, TG; Sauffer, MD; Wu, YJ; Hinkson, N; Bork, MA; McShane, CM; Choi, KS; McMillin, DR; Choi, JH	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	SWNT, oligonucleotide DNA	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
733	2012	Polymer-gold nanohybrids with potential use in bimodal MRI/CT: enhancing the relaxometric properties of Gd(III) complexes	Beija, M; Li, Y; Duong, HT; Laurent, S; Vander Elst, L; Muller, RN; Lowe, AB; Davis, TP; Boyer, C	Chemistry, Physical; Materials Science, Multidisciplinary	Au, gadolinium, polymer	Optical imaging and applications	OMCNH
734	2012	Correlation of the degree of conversion with the amount of elutable substances in nano-hybrid dental composites	Durner, J; Obermaier, J; Draenert, M; Ilie, N	Dentistry, Oral Surgery & Medicine; Materials Science, Biomaterials	N/A	N/A	N/A
735	2012	Second generation 'nanohybrid supercapacitor': Evolution of capacitive energy storage devices	Naoi, K; Ishimoto, S; Miyamoto, J; Naoi, W	Chemistry, Multidisciplinary; Energy & Fuels; Engineering, Chemical; Environmental Sciences	Li4Ti5O12, Carbon nanofibers	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
736	2012	Preparation and Characterization of Novel Polyimide/SiO2 Nano-hybrid Films by In Situ Polymerization	Babanzadeh, S; Mehdi-pour-Ataei, S; Mahjoub, AR	Polymer Science	Polyimide, SiO2	Synthesis of new nanohybrids/materials	OMCNH
737	2012	Nanohybrid shish kebab structure and its effect on mechanical properties in poly(L-lactide)/carbon nanotube nanocomposite fibers	Ning, NY; Zhang, W; Zhao, YS; Luo, F; Fu, Q	Polymer Science	DWNT, poly(L-lactide)	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	OMCNH
738	2012	Effect of surface "groove" structure of carbon nanotube bundles on the formation of nanohybrid shish kebab	Ning, NY; Zhang, W; Yan, JJ; Xu, F; Tang, CY; Fu, Q	Materials Science, Multidisciplinary	DWNT, MWNT, Polyethylene	Crystallography and polymer crystallization	OMCNH
739	2012	Lipid-Based Bio-Nanohybrids for Functional Stabilisation of Influenza Vaccines	Wicklein, B; del Burgo, MAM; Yuste, M; Darder, M; Llavata, CE; Aranda, P; Ortin, J; del Real, G; Ruiz-Hitzky, E	Chemistry	Sepiolite, Mg/Al LDH, Lipid	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	OMCNH
740	2012	Development of Pt/TiO2 nanohybrids-modified SWCNT electrode for sensitive hydrogen peroxide detection	Han, KN; Li, CA; Bui, MPN; Pham, XH; Kim, BS; Choa, YH; Seong, GH	Chemistry; Electrochemistry; Instruments & Instrumentation	Pt, TiO2, SWNT	Sensors/biosensors/electrochemical sensors	CMNH
741	2012	New POSS/magnesium silicate nanohybrids obtained by chemical or mechanical methods	Ambrozewicz, D; Marciniak, B; Jesionowski, T	Engineering	Magnesium silicate; Polyhedral oligomeric silsesquioxane	Sensors/biosensors/electrochemical sensors	OMCNH
742	2012	Copper Oxide Based Polymer Nanohybrid for Chemical Sensor Applications	Khan, SB; Rahman, MM; Akhtar, K; Asiri, AM; Alamry, KA; Seo, J; Han, H	Electrochemistry	CuO, Poly propylene carbonate	Sensors/biosensors/electrochemical sensors	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
743	2012	Electrical and thermal properties of polyamideimide-colloid silica nanohybrid for magnetic enameled wire	Han, SW; Kang, DP	Materials Science	Polyamidimide, colloidal silica	Semiconductors/superconductors/conductive materials	OMCNH
744	2012	Organic/inorganic hybrid electrochromic devices based on photoelectrochemically formed polypyrrole/TiO ₂ nanohybrid films	Takagi, S; Makuta, S; Veamatahau, A; Otsuka, Y; Tachibana, Y	Chemistry; Materials Science	Polypyrrole, TiO ₂	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	OMCNH
745	2012	Indium(III) and Gallium(III) phthalocyanines-based nanohybrid materials for optical limiting	Gu, HL; Li, S; Wang, J; Blau, WJ; Chen, Y	Materials Science	In(III), Ga(III) phthalocyanines, Poly(methylmethacrylate) PMMA	Optical imaging and applications	MMNH
746	2012	Incubating non-prefabricated nanocrystals in anodized nanotubes for TiO ₂ nano-hybrids	Huang, CY; Tao, JC; Sun, Y; Zhang, RJ; Wu, YZ; Chen, X; Dai, N	Chemistry	TiO ₂ , TiO ₂ nanotubes	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	MMNH
747	2012	Electro-catalytic activity of multiwall carbon nanotube-metal (Pt or Pd) nanohybrid materials synthesized using microwave-induced reactions and their possible use in fuel cells	Kumar, LV; Ntim, SA; Sae-Khow, O; Janardhana, C; Lakshminarayanan, V; Mitra, S	Electrochemistry	MWNT, Pt, Pd	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
748	2012	Effect of grafting architecture on the surfactant-like behavior of clay-poly(NiPAAm) nanohybrids	Lin, HC; Hsieh, BZ; Lin, YL; Sheng, YJ; Lin, JJ	Chemistry	Poly(N-isopropylacrylamide) (PNiPAAm), silicate platelets	Synthesis of new nanohybrids/materials	OMCNH
749	2012	CeO ₂ -layered aluminosilicate nanohybrids for UV screening	Kamada, K; Kang, JH; Paek, SM; Choy, JH	Chemistry; Physics	CeO ₂ , aluminosilicate clay	Optical imaging and applications	MMNH
750	2012	Polyepoxide-based nanohybrid films with self-assembled linear assemblies of nanodiamonds	Cho, HB; Nguyen, ST; Nakayama, T; Suematsu, H; Suzuki, T; Jiang, WH; Tanaka, S; Kim, BS; Niihara, K	Materials Science, Multidisciplinary; Metallurgy & Metallurgical Engineering	Polyepoxide, nanodiamonds	Synthesis of new nanohybrids/materials	OMCNH
751	2012	Self-assembly of graphene oxide and polyelectrolyte complex nanohybrid membranes for nanofiltration and pervaporation	Wang, NX; Ji, SL; Zhang, GJ; Li, J; Wang, L	Engineering	N/A	N/A	N/A
752	2012	Preparation of cytocompatible luminescent and magnetic nanohybrids based on ZnO, Zn _{0.95} Ni _{0.05} O and core@shell ZnO@Fe ₂ O ₃ polymer grafted nanoparticles for biomedical imaging	Balti, I; Barrere, A; Gueguen, V; Poussard, L; Pavon-Djavid, G; Meddahi-Pelle, A; Rabu, P; Smiri, LS; Jouini, N; Chaubet, F	Chemistry; Science & Technology - Other Topics; Materials Science	ZnO, Fe ₂ O ₃	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	MMNH
753	2012	Hematoporphyrin-ZnO Nanohybrids: Twin Applications in Efficient Visible-Light Photocatalysis and Dye-Sensitized Solar Cells	Sarkar, S; Makhil, A; Bora, T; Lakhsman, K; Singha, A; Dutta, J; Pal, SK	Science & Technology - Other Topics; Materials Science	Hematoporphyrin, ZnO	Catalytic/Photocatalytic/Electrocatalytic applications	OMCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
754	2012	Facilely constructing robust nanohybrids comprising high dispersion of platinum-ruthenium nanoparticles on carbon nanotubes and their enhanced electrocatalytic performance	Cui, Y; Wu, BH; Mao, LQ; Yin, DL	Materials Science; Physics	CNT, dodecylamine(DA), PtRu	Semiconductors/superconductors/conductive materials	CMNH
755	2012	Visible-light photocatalytic activity of mesoporous nanohybrid assembled by tantalotungstate nanosheets and manganese ions	Lin, BZ; He, LW; Zhu, BL; Chen, YL; Gao, BF	Chemistry	Mn, tantalotungstates nanosheets	Catalytic/Photocatalytic/Electrocatalytic applications	MMNH
756	2012	Pulsed Laser Ablation based Direct Synthesis of Single-Wall Carbon Nanotube/PbS Quantum Dot Nanohybrids Exhibiting Strong, Spectrally Wide and Fast Photoresponse	Ka, I; Le Borgne, V; Ma, D; El Khakani, MA	Chemistry; Science & Technology - Other Topics; Materials Science	SWNT, PbS	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CMNH
757	2012	Injectable Nanohybrid Scaffold for Biopharmaceuticals Delivery and Soft Tissue Engineering	Tan, HP; Shen, Q; Jia, XJ; Yuan, ZP; Xiong, DS	Polymer Science	N/A	N/A	N/A
758	2012	Double-templated electrodeposition: Simple fabrication of micro-nano hybrid structure by electrodeposition for efficient boiling heat transfer	Shin, S; Kim, BS; Choi, G; Lee, H; Cho, HH	Physics	N/A	N/A	N/A
Selected Nanohorn Publications							
759	2004	Carbon nanohorns hybridized with a metal-included nanocapsule	Sano, N; Kikuchi, T; Wang, HL; Chhowalla, M; Amaratunga, GAJ	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
760	2006	Preparing a magnetically responsive single-wall carbon nanohorn colloid by anchoring magnetite nanoparticles	Utsumi, S; Urita, K; Kanoh, H; Yudasaka, M; Suenaga, K; Iijima, S; Kaneko, K	Chemistry, Physical	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
761	2007	Formation of single-wall carbon nanohorn aggregates hybridized with carbon nanocapsules by laser vaporization	Kobayashi, K; Shimazu, T; Yamada, Y; Koshio, A; Takahashi, Y; Kokai, F	Materials Science, Multidisciplinary; Physics, Applied	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
762	2007	Theoretical study in donor-acceptor carbon nanohorn-based hybrids	Petsalakis, ID; Pagona, G; Tagmatarchis, N; Theodorakopoulos, G	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanohorn	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
763	2009	Properties, applications and functionalisation of carbon nanohorns	Pagona, G; Mountrichas, G; Rotas, G; Karousis, N; Pispas, S; Tagmatarchis, N	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanohorn	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
764	2009	Solvent-free microwave-assisted Bingel reaction in carbon nanohorns	Economopoulos, SP; Pagona, G; Yudasaka, M; Iijima, S; Tagmatarchis, N	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
765	2009	Single wall carbon nanohorns coated with anatase titanium oxide	Battiston, S; Bolzan, M; Fiameni, S; Gerbasi, R; Meneghetti, M; Miorin, E; Mortalo, C; Pagura, C	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
766	2009	Solubilization of Carbon Nanohorns by Block Polyelectrolyte Wrapping and Templated Formation of Gold Nanoparticles	Mountrichas, G; Ichihashi, T; Pispas, S; Yudasaka, M; Iijima, S; Tagmatarchis, N	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
767	2009	Structural characterization of single-wall carbon nanohorn aggregates hybridized with carbon nanocapsules and their formation mechanism	Kokai, F; Tachi, N; Kobayashi, K; Koshio, A	Chemistry, Physical; Materials Science, Coatings & Films; Physics, Applied; Physics, Condensed Matter	Nanohorn	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
768	2009	Decoration of Carbon Nanohorns with Palladium and Platinum Nanoparticles	Karousis, N; Ichihashi, T; Yudasaka, M; Iijima, S; Tagmatarchis, N	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
769	2009	Simultaneous electrochemical determination of uric acid, dopamine, and ascorbic acid at single-walled carbon nanohorn modified glassy carbon electrode	Zhu, SY; Li, HJ; Niu, WX; Xu, GB	Biophysics; Biotechnology & Applied Microbiology; Chemistry, Analytical; Electrochemistry; Nanoscience & Nanotechnology	Nanohorn	Sensors/biosensors/electrochemical sensors	CCNH
770	2010	A Carbon Nanohorn-Porphyrin Supramolecular Assembly for Photoinduced Electron-Transfer Processes	Vizuete, M; Gomez-Escalonilla, MJ; Fierro, JLG; Sandanayaka, ASD; Hasobe, T; Yudasaka, M; Iijima, S; Ito, O; Langa, F	Chemistry, Multidisciplinary	Nanohorn	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
771	2010	Imidazolium modified carbon nanohorns: switchable solubility and stabilization of metal nanoparticles	Karousis, N; Ichihashi, T; Chen, S; Shinohara, H; Yudasaka, M; Iijima, S; Tagmatarchis, N	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
772	2010	Template-free electrochemical nanofabrication of polyaniline nanobrush and hybrid polyaniline with carbon nanohorns for supercapacitors	Wei, D; Wang, HL; Hiralal, P; Andrew, P; Ryhanen, T; Hayashi, Y; Amaratunga, GAJ	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Nanohorn	Semiconductors/superconductor s/conductive materials	CCNH
773	2010	Highly Efficient Field Emission from Carbon Nanotube-Nanohorn Hybrids Prepared by Chemical Vapor Deposition	Yuge, R; Miyawaki, J; Ichihashi, T; Kuroshima, S; Yoshitake, T; Ohkawa, T; Aoki, Y; Iijima, S; Yudasaka, M	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanohorn	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
774	2011	Microwave-assisted functionalization of carbon nanohorns via [2+1] nitrenes cycloaddition	Karousis, N; Ichihashi, T; Yudasaka, M; Iijima, S; Tagmatarchis, N	Chemistry, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
775	2011	Nucleic acid detection using single-walled carbon nanohorns as a fluorescent sensing platform	Zhu, SY; Liu, ZY; Zhang, W; Han, S; Hu, LZ; Xu, GB	Chemistry, Multidisciplinary	Nanohorn	Sensors/biosensors/electrochemical sensors	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
776	2011	A soluble hybrid material combining carbon nanohorns and C-60	Vizuete, M; Gomez-Escalonilla, MJ; Fierro, JLG; Yudasaka, M; Iijima, S; Vartanian, M; Iehl, J; Nierengarten, JF; Langa, F	Chemistry, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
777	2011	Enhanced supercapacitors from hierarchical carbon nanotube and nanohorn architectures	Hiralal, P; Wang, HL; Unalan, HE; Liu, YL; Rouvala, M; Wei, D; Andrew, P; Amaratunga, GAJ	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Semiconductors/superconductors/conductive materials	CCNH
778	2011	Single-step synthesis and characterization of single-walled carbon nanohorns hybridized with Pd nanoparticles using N-2 gas-injected arc-in-water method	Poonjarernsilp, C; Sano, N; Charinpanitkul, T; Mori, H; Kikuchi, T; Tamon, H	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
779	2011	Synthesis, characterization, and photophysical properties of a carbon nanohorn-coumarin hybrid material	Pagona, G; Katerinopoulos, HE; Tagmatarchis, N	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanohorn	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
780	2012	Amperometric detection of hypoxanthine and xanthine by enzymatic amplification using a gold nanoparticles-carbon nanohorn hybrid as the carrier	Zhang, L; Lei, JP; Zhang, J; Ding, L; Ju, HX	Chemistry, Analytical	Nanohorn	Sensors/biosensors/electrochemical sensors	CCNH
781	2012	Carbon Nanohorn-Porphyrin Dimer Hybrid Material for Enhancing Light-Energy Conversion	Pagona, G; Zervaki, GE; Sandanayaka, ASD; Ito, O; Charalambidis, G; Hasobe, T; Coutsoleos, AG; Tagmatarchis, N	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanohorn	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
782	2012	Carbon nanohorns functionalized with polyamidoamine dendrimers as efficient biocarrier materials for gene therapy	Guerra, J; Herrero, MA; Carrion, B; Perez-Martinez, FC; Lucio, M; Rubio, N; Meneghetti, M; Prato, M; Cena, V; Vazquez, E	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Delivery Carriers, and Controlled Release of Drugs/Compounds	CCNH
783	2012	Direct evidence for covalent functionalization of carbon nanohorns by high-resolution electron microscopy imaging of C-60 conjugated onto their skeleton	Karousis, N; Sato, Y; Suenaga, K; Tagmatarchis, N	Chemistry, Physical; Materials Science, Multidisciplinary	Nanohorn	Synthesis of new nanohybrids/materials	CCNH
784	2012	Enhanced docetaxel-mediated cytotoxicity in human prostate cancer cells through knockdown of cofilin-1 by carbon nanohorn delivered siRNA	Perez-Martinez, FC; Carrion, B; Lucio, MI; Rubio, N; Herrero, MA; Vazquez, E; Cena, V	Engineering, Biomedical; Materials Science, Biomaterials	Nanohorn	Delivery Carriers, and Controlled Release of Drugs/Compounds	CCNH
785	2012	Electrochemical sensing platform based on Schiff-base cobalt(II)/single-walled carbon nanohorns complexes system	Lu, BP; Zhang, Z; Hao, JH; Xu, GB; Zhang, BL; Tang, JL	Chemistry, Analytical; Food Science & Technology; Spectroscopy	Nanohorn	Sensors/biosensors/electrochemical sensors	CCNH
Selected Nanobud Publications							
786	2007	Investigations of NanoBud formation	Nasibulin, AG; Anisimov, AS; Pikhitsa, PV; Jiang, H; Brown, DP; Choi, M; Kauppinen, EI	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanobud	Synthesis of new nanohybrids/materials	CCNH

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787	2008	WS2 nanobuds as a new hybrid nanomaterial	Remskar, M; Virsek, M; Jesih, A	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanobud	Synthesis of new nanohybrids/materials	CCNH
788	2008	Combined Raman spectroscopy and transmission electron microscopy studies of a NanoBud structure	Tian, Y; Chassaing, D; Nasibulin, AG; Ayala, P; Jiang, H; Anisimov, AS; Kauppinen, EI	Chemistry, Multidisciplinary	Nanobud	Synthesis of new nanohybrids/materials	CCNH
789	2008	First-principles study of a carbon nanobud	Wu, XJ; Zeng, XC	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
790	2008	The local study of a nanoBud structure	Tian, Y; Chassaing, D; Nasibulin, AG; Ayala, P; Jiang, H; Anisimov, AS; Hassani, A; Kauppinen, EI	Physics, Condensed Matter	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
791	2009	Periodic Graphene Nanobuds	Wu, XJ; Zeng, XC	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanobud	Synthesis of new nanohybrids/materials	CCNH
792	2009	Magnetism in hybrid carbon nanostructures: Nanobuds	Zhu, X; Su, HB	Physics, Condensed Matter	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
793	2009	Detection of Neural Signals with Vertically Grown Single Platinum Nanowire-Nanobud	Choi, DS; Fung, AO; Moon, H; Villareal, G; Chen, Y; Ho, D; Presser, N; Stupian, G; Leung, M	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanobud	Sensors/biosensors/electrochemical sensors	CCNH
794	2009	Electronic Structures and Raman Features of a Carbon Nanobud	He, HY; Pan, BC	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanobud	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
795	2009	Interaction between nanobuds and hydrogen molecules: A first-principles study	Wang, XX; Ma, CG; Chen, K; Li, HNA; Wang, P	Physics, Multidisciplinary	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH

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796	2010	Discrete and Continuous Approximations for Nanobuds	Baowan, D; Cox, BJ; Hill, JM	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Atomic, Molecular & Chemical	N/A	N/A	N/A
797	2010	First-principles study of the electronic transport properties of the carbon nanobuds	Zhao, P; Wang, PJ; Zhang, Z; Ren, MJ; Liu, DS	Physics, Condensed Matter	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
798	2010	Selective Covalent Functionalization of Carbon Nanobuds	Raula, J; Makowska, M; Lahtinen, J; Sillanpaa, A; Runeberg, N; Tarus, J; Heino, M; Seppala, ET; Jiang, H; Kauppinen, EI	Chemistry, Physical; Materials Science, Multidisciplinary	Nanobud	Synthesis of new nanohybrids/materials	CCNH
799	2010	Temperature Dependent Raman Spectra of Carbon Nanobuds	He, MS; Rikkinen, E; Zhu, Z; Tian, Y; Anisimov, AS; Jiang, H; Nasibulin, AG; Kauppinen, EI; Niemela, M; Krause, AOI	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
800	2010	A comparative study of field emission from NanoBuds, nanographite and pure or N-doped single-wall carbon nanotubes	Kleshch, VI; Susi, T; Nasibulin, AG; Obratsova, ED; Obratsov, AN; Kauppinen, EI	Physics, Condensed Matter	Nanobud	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
801	2011	Magnetic properties of all-carbon graphene-fullerene nanobuds	Wang, M; Li, CM	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
802	2011	A DFT study of carbon nanobuds	Seif, A; Zahedi, E; Ahmadi, TS	Physics, Condensed Matter	N/A	N/A	N/A
803	2012	Fabrication of Highly Rough Ag Nanobud Substrates and Surface-Enhanced Raman Scattering of lambda-DNA Molecules	Deng, CY; Ma, WY; Sun, JL	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanobud	Synthesis of new nanohybrids/materials	CCNH
804	2012	Mechanical Properties of Graphene Nanobuds: A Molecular Dynamics Study	Zheng, YP; Xu, LQ; Fan, ZY; Wei, N; Lu, Y; Huang, ZG	Biotechnology & Applied Microbiology; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanobud	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
805	2012	Effects of chemical functionalization on electronic transport in carbon nanobuds	Havu, P; Sillanpaa, A; Runeberg, N; Tarus, J; Seppala, ET; Nieminen, RM	Physics, Condensed Matter	Nanobud	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
806	2012	Selective chemical functionalization of carbon nanobuds	Anoshkin, IV; Nasibulin, AG; Mudimela, PR; Raula, J; Ermolou, V; Kauppinen, EI	Chemistry, Physical; Materials Science, Multidisciplinary	Nanobud	Synthesis of new nanohybrids/materials	CCNH
Selected Peapod Publications							
807	2002	Mapping the one-dimensional electronic states of nanotube peapod structures	Hornbaker, DJ; Kahng, SJ; Misra, S; Smith, BW; Johnson, AT; Mele, EJ; Luzzi, DE; Yazdani, A	Multidisciplinary Sciences	Peapod	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH

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808	2002	Theory of scanning tunneling spectroscopy of fullerene peapods	Kane, CL; Mele, EJ; Johnson, AT; Luzzi, DE; Smith, BW; Hornbaker, DJ; Yazdani, A	Physics, Condensed Matter	N/A	N/A	N/A
809	2003	Quantum conductance of carbon nanotube peapods	Yoon, YG; Mazzoni, MSC; Louie, SG	Physics, Applied	Peapod	Semiconductors/superconductors/conductive materials	CCNH
810	2004	Electronic properties of potassium-intercalated C-60 peapods	Liu, X; Pichler, T; Knupfer, M; Fink, J; Kataura, H	Physics, Condensed Matter	Peapod	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
811	2004	Density functional calculations for C-60 peapods	Dubay, O; Kresse, G	Physics, Condensed Matter	N/A	N/A	N/A
812	2005	Energetics and electronic structures of potassium-intercalated C-60 peapods	Okada, S	Physics, Condensed Matter	N/A	N/A	N/A
813	2005	Influence of the C-60 filling on the nature of the metallic ground state in intercalated peapods	Rauf, H; Shiozawa, H; Pichler, T; Knupfer, M; Buchner, B; Kataura, H	Physics, Condensed Matter	Peapod	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
814	2006	Novel carbon nanotube peapods encapsulating Au-32 golden fullerene	Zhao, JJ; Wen, B; Zhou, Z; Li, TJ; Chen, ZF; Schleyer, PV; Xie, JRH	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Peapod	Synthesis of new nanohybrids/materials	CCNH
815	2006	Enhancement of inner tube formation from peapods in de-pressurized inert gas environment	Fujita, Y; Niwa, N; Bandow, S; Iijima, S	Materials Science, Multidisciplinary; Physics, Applied	Peapod	Synthesis of new nanohybrids/materials	CCNH
816	2008	Modeling spin interactions in carbon peapods using a hybrid density functional theory	Ge, L; Montanari, B; Jefferson, JH; Pettifor, DG; Harrison, NM; Briggs, GAD	Physics, Condensed Matter	N/A	N/A	N/A
817	2008	Photoemission study of electronic structures of fullerene and metallofullerene peapods	Nakayama, Y; Fujiki, S; Hirado, Y; Shiozawa, H; Ishii, H; Miyahara, T; Maniwa, Y; Kodama, T; Achiba, Y; Kataura, H; Kubozono, Y; Nakatake, M; Saitoh, T	Physics, Condensed Matter	Peapod	Fluorescence/luminescence/photoluminescence, light-energy harvesting	CCNH
818	2009	Effects of Doping on Electronic Structure and Correlations in Carbon Peapods	Ge, L; Jefferson, JH; Montanari, B; Harrison, NM; Pettifor, DG; Briggs, GAD	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Peapod	Synthesis of new nanohybrids/materials	CCNH
819	2010	Host-guest interactions in azafullerene (C59N)-single-wall carbon nanotube (SWCNT) peapod hybrid structures	Iizumi, Y; Okazaki, T; Liu, Z; Suenaga, K; Nakanishi, T; Iijima, S; Rotas, G; Tagmatarchis, N	Chemistry, Multidisciplinary	Peapod	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH

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820	2010	Transport via coupled states in a C-60 peapod quantum dot	Eliassen, A; Paaske, J; Flensburg, K; Smerat, S; Leijnse, M; Wegewijs, MR; Jorgensen, HI; Monthieux, M; Nygard, J	Physics, Condensed Matter	Peapod	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
821	2012	Predicting the electronic structure of weakly interacting hybrid systems: The example of nanosized peapod structures	Milko, M; Puschnig, P; Draxl, C	Physics, Condensed Matter	N/A	N/A	N/A
Selected Nanoonion Publications							
822	1999	Optical properties of Si-Ge semiconductor nano-onions	Hill, NA; Pokrant, S; Hill, AJ	Chemistry, Physical	Nanoonion	Optical imaging and applications	CCNH
823	2000	Phenomenological magnetic modeling of Au : Fe : Au nano-onions	Wiggins, J; Carpenter, EE; O'Connor, CJ	Physics, Applied	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
824	2001	Growth of fullerene-like carbon nitride thin solid films consisting of cross-linked nano-onions	Czigany, Z; Brunell, IF; Neidhardt, J; Hultman, L; Suenaga, K	Physics, Applied	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
825	2001	Cross-linked nano-onions of carbon nitride in the solid phase: Existence of a novel C48N12 aza-fullerene	Hultman, L; Stafstrom, S; Czigany, Z; Neidhardt, J; Hellgren, N; Brunell, IF; Suenaga, K; Colliex, C	Physics, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
826	2002	Stability of carbon nanoonion C-20@C-60@C-240: Molecular dynamics simulations	Erkoc, S	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	N/A	N/A	N/A
827	2002	Magneto-optical effects calculated for granular composites with magnetized nano-onions dispersed in matrixes	Abe, M; Kuroda, J	Physics, Applied	Nanoonion	Optical imaging and applications	CCNH
828	2002	Templating effect of hydrogen-passivated silicon nanowires in the production of hydrocarbon nanotubes and nanoonions via sonochemical reactions with common organic solvents under ambient conditions	Sun, XH; Li, CP; Wong, NB; Lee, CS; Lee, ST; Teo, BK	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
829	2003	Characterisation of carbon nano-onions using Raman spectroscopy	Roy, D; Chhowalla, M; Wang, H; Sano, N; Alexandrou, I; Clyne, TW; Amaratunga, GAJ	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
830	2004	Evaluation of the tribological behavior of nano-onions in Krytox 143AB	Street, KW; Marchetti, M; Vander Wal, RL; Tomasek, AJ	Engineering, Chemical; Engineering, Mechanical	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
831	2004	The preparation of nano-onion-like fullerenes by arc discharge	Zhang, HX; Wang, XM; Wang, HY; Liu, XG; Xu, BS	Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH

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832	2005	Magneto-optical enhancement by surface plasmon resonance in magnetic "nano-onions" with multicore-shell structures	Abe, M; Takeshi, S	Physics, Applied	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
833	2005	Molecular characterization of the cytotoxic mechanism of multiwall carbon nanotubes and nano-onions on human skin fibroblast	Ding, LH; Stilwell, J; Zhang, TT; Elboudwarej, O; Jiang, HJ; Selegue, JP; Cooke, PA; Gray, JW; Chen, FQF	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanoonion	Medicine (cancer research, biocompatibility, biomedical apps, bone regeneration/repair)	CCNH
834	2006	Preparation and functionalization of multilayer fullerenes (carbon nano-onions)	Rettenbacher, AS; Elliott, B; Hudson, JS; Amirkhanian, A; Echegoyen, L	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
835	2006	Study on electromagnetic property of nano onion-like fullerenes	Ge, AY; Xu, BS; Wang, XM; Li, TB; Han, PD; Liu, XG	Chemistry, Physical	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
836	2006	Production of carbon nanoonions and nanotubes using an intermittent arc discharge in water	Imasaka, K; Kanatake, Y; Ohshiro, Y; Suehiro, J; Hara, M	Materials Science, Multidisciplinary; Materials Science, Coatings & Films; Physics, Applied; Physics, Condensed Matter	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
837	2006	Strain distributions in nano-onions with uniform and non-uniform compositions	Duan, HL; Karihaloo, BL; Wang, J; Yi, X	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Nanoonion	Semiconductors/superconductors/conductive materials	CCNH
838	2006	Semiconductor "nano-onions" with multifold alternating CdS/CdSe or CdSe/CdS structure	Pan, DC; Wang, Q; Pang, JB; Jiang, SC; Ji, XL; An, LJ	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Semiconductors/superconductors/conductive materials	CCNH
839	2007	Reactivity differences between carbon nano onions (CNOs) prepared by different methods	Palkar, A; Melin, F; Cardona, CM; Elliott, B; Naskar, AK; Edie, DD; Kumbhar, A; Echegoyen, L	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
840	2007	Functionalization of carbon nano-onions by direct fluorination	Liu, Y; Vander Wal, RL; Khabashesku, VN	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
841	2007	Radical addition of a conjugated polymer to multilayer fullerenes (carbon nano-onions)	Rettenbacher, AS; Perpall, MW; Echegoyen, L; Hudson, J; Smith, DW	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
842	2007	Plasma characterization and room temperature growth of carbon nanotubes and nano-onions by excimer laser ablation	Radhakrishnan, G; Adams, PM; Bernstein, LS	Chemistry, Physical; Materials Science, Coatings & Films; Physics, Applied; Physics, Condensed Matter	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
843	2007	Carbon nano-onions prepared by arc-discharge in water	Jiang, P; Yao, KF	Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
844	2008	Pyridyl-functionalized and water-soluble carbon nano onions: First supramolecular complexes of carbon nano onions	Palkar, A; Kumbhar, A; Athans, AJ; Echevoyen, L	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
845	2008	Anti-wear and friction reducing mechanisms of carbon nano-onions as lubricant additives	Joly-Pottuz, L; Vacher, B; Ohmae, N; Martin, JM; Epicier, T	Engineering, Chemical; Engineering, Mechanical	Nanoonion	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
846	2008	Fe-encapsulating carbon nano onionlike fullerenes from heavy oil residue	Yang, Y; Liu, X; Xu, B	Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
847	2009	Facile Functionalization of Multilayer Fullerenes (Carbon Nano-Onions) by Nitrene Chemistry and "Grafting from" Strategy	Zhou, L; Gao, C; Zhu, D; Xu, W; Chen, FF; Palkar, A; Echevoyen, L; Kong, ESW	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
848	2009	A Carbon Nano-Onion-Ferrocene Donor-Acceptor System: Synthesis, Characterization and Properties	Cioffi, CT; Palkar, A; Melin, F; Kumbhar, A; Echevoyen, L; Melle-Franco, M; Zerbetto, F; Rahman, GMA; Ehli, C; Sgobba, V; Guldi, DM; Prato, M	Chemistry, Multidisciplinary	Nanoonion	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
849	2009	Synthesis of nano onion-like fullerenes by using Fe/Al ₂ O ₃ as catalyst by chemical vapor deposition	Liu, XG; Wang, CJ; Yang, YZ; Guo, XM; Wen, HR; Xu, BS	Multidisciplinary Sciences	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
850	2009	High-yield synthesis of carbon nano-onions in counterflow diffusion flames	Hou, SS; Chung, DH; Lin, TH	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
851	2009	The mechanism of growth and decay of carbon nano-onions formed by ordering of amorphous particles	Szerencsi, M; Radnoczi, G	Materials Science, Multidisciplinary; Physics, Applied	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
852	2010	Small Noncytotoxic Carbon Nano-Onions: First Covalent Functionalization with Biomolecules	Luszczyn, J; Plonska-Brzezinska, ME; Palkar, A; Dubis, AT; Simionescu, A; Simionescu, DT; Kalska-Szostko, B; Winkler, K; Echevoyen, L	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
853	2010	Electrochemical Properties of Small Carbon Nano-Onion Films	Plonska-Brzezinska, ME; Palkar, A; Winkler, K; Echevoyen, L	Electrochemistry; Materials Science, Multidisciplinary	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
854	2010	Electrochemical properties of composites containing small carbon nano-onions and solid polyelectrolytes	Breczko, J; Winkler, K; Plonska-Brzezinska, ME; Villalta-Cerdas, A; Echevoyen, L	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
855	2010	Friction Properties of Carbon Nano-Onions from Experiment and Computer Simulations	Joly-Pottuz, L; Bucholz, EW; Matsumoto, N; Phillipot, SR; Sinnott, SB; Ohmae, N; Martin, JM	Engineering, Chemical; Engineering, Mechanical	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
856	2010	Functionalization of Multilayer Fullerenes (Carbon Nano-Onions) using Diazonium Compounds and "Click" Chemistry	Flavin, K; Chaur, MN; Echevoyen, L; Giordani, S	Chemistry, Organic	Nanoonion	Synthesis of new nanohybrids/materials	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
857	2010	Observation of Hybrid Carbon Nanostructures as Intermediates in the Transformation from Hydrocarbon Nanotubes and Nano-onions to Carbon Nanotubes and Nano-onions via Sonolysis on Silicon Nanowires and Nanodots, Respectively	Teo, BK; Sun, XH; Li, CP; Wong, NB; Lee, ST	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
858	2010	Solubilization of carbon nanoparticles, nanotubes, nano-onions, and nanodiamonds through covalent functionalization with sucrose	Kuznetsov, OV; Pulikkathara, MX; Lobo, RFM; Khabashesku, VN	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
859	2010	Edge-Mediated Dislocation Processes in Multishell Carbon Nano-Onions?	Akatyeva, E; Huang, JY; Dumitrica, T	Physics, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
860	2010	Flame synthesis of carbon nano-onions enhanced by acoustic modulation	Chung, DH; Lin, TH; Hou, SS	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
861	2011	Effect of high pressures and temperatures on carbon nano-onion structures: comparison with C-60	Dubitsky, GA; Serebryanaya, NR; Blank, VD; Skryleva, EA; Kulnitsky, BA; Mavrin, BN; Aksenkov, VV; Bagramov, RK; Denisov, VN; Perezhogin, IA	Chemistry, Multidisciplinary	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
862	2011	The efficient synthesis of carbon nano-onions using chemical vapor deposition on an unsupported Ni-Fe alloy catalyst	Zhang, CG; Li, JJ; Shi, CS; Liu, EZ; Du, XW; Feng, W; Zhao, NQ	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
863	2011	Resonant excitation of precursor molecules in improving the particle crystallinity, growth rate and optical limiting performance of carbon nano-onions	Gao, Y; Zhou, YS; Park, JB; Wang, H; He, XN; Luo, HF; Jiang, L; Lu, YF	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Nanoonion	Optical imaging and applications	CCNH
864	2011	Synthesis of nano onion-like fullerenes by chemical vapor deposition using an iron catalyst supported on sodium chloride	Yang, YZ; Liu, XG; Guo, XM; Wen, HR; Xu, BS	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
865	2011	Preparation of Carbon Nano-Onions and Their Application as Anode Materials for Rechargeable Lithium-Ion Batteries	Han, FD; Yao, B; Bai, YJ	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanoonion	Energy/Electron Transfer, Donor/Acceptor, Solar/Fuel Cells/Ion-Li Batteries, and Electronic Applications	CCNH
866	2011	Electrochemical Properties of Oxidized Carbon Nano-Onions: DRIFTS-FTIR and Raman Spectroscopic Analyses	Plonska-Brzezinska, ME; Dubis, AT; Lapinski, A; Villalta-Cerdas, A; Echeгойen, L	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
867	2011	Transformation of nano-diamonds to carbon nano-onions studied by X-ray diffraction and molecular dynamics	Hawelek, L; Brodka, A; Tomita, S; Dore, JC; Honkimaki, V; Burian, A	Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
868	2011	Carbon Nano-onions for Imaging the Life Cycle of Drosophila Melanogaster	Ghosh, M; Sonkar, SK; Saxena, M; Sarkar, S	Chemistry, Multidisciplinary; Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied; Physics, Condensed Matter	Nanoonion	Optical imaging and applications	CCNH
869	2011	The synthesis and characterization of carbon nano-onions produced by solution ozonolysis	Plonska-Brzezinska, ME; Lapinski, A; Wilczewska, AZ; Dubis, AT; Villalta-Cerdas, A; Winkler, K; Echevoyen, L	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
870	2012	Microfluidic size selective growth of palladium nano-particles on carbon nano-onions	Yasin, FM; Boulos, RA; Hong, BY; Cornejo, A; Iyer, KS; Gao, LZ; Chua, HT; Raston, CL	Chemistry, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
871	2012	Water soluble carbon nano-onions from wood wool as growth promoters for gram plants	Sonkar, SK; Roy, M; Babar, DG; Sarkar, S	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
872	2012	Preparation and Characterization of Composites that Contain Small Carbon Nano-Onions and Conducting Polyaniline	Plonska-Brzezinska, ME; Mazurczyk, J; Palys, B; Brezcko, J; Lapinski, A; Dubis, AT; Echevoyen, L	Chemistry, Multidisciplinary	Nanoonion	Physical/electrical/mechanical properties (thermal, resistance, magnetic)	CCNH
873	2012	Molecular dynamics investigation of the lubrication mechanism of carbon nano-onions	Bucholz, EW; Phillpot, SR; Sinnott, SB	Materials Science, Multidisciplinary	N/A	N/A	N/A
874	2012	Carbon Nano-Onions as Nontoxic and High-Fluorescence Bioimaging Agent in Food Chain-An In Vivo Study from Unicellular E. coli to Multicellular C-elegans	Sonkar, SK; Ghosh, M; Roy, M; Begum, A; Sarkar, S	Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanoonion	Optical imaging and applications	CCNH
875	2012	Dynamics of Phenanthrenequinone on Carbon Nano-Onion Surfaces Probed by Quasielastic Neutron Scattering	Chathoth, SM; Anjos, DM; Mamontov, E; Brown, GM; Overbury, SH	Chemistry, Physical	N/A	N/A	N/A
876	2012	Electrochemical oxidation and determination of dopamine in the presence of uric and ascorbic acids using a carbon nano-onion and poly(diallyldimethylammonium chloride) composite	Brezcko, J; Plonska-Brzezinska, ME; Echevoyen, L	Electrochemistry	Nanoonion	Sensors/biosensors/electrochemical sensors	CCNH

#	Year	Title	Authors	Research areas	Materials	Application	NH of Env significance
877	2012	Electrochemical Study of Functionalized Carbon Nano-Onions for High-Performance Supercapacitor Electrodes	Borghain, R; Li, JC; Selegue, JP; Cheng, YT	Chemistry, Physical; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanoonion	Semiconductors/superconductors/conductive materials	CCNH
878	2012	Synthesis of hollow carbon nano-onions and their use for electrochemical hydrogen storage	Zhang, CG; Li, JJ; Liu, EZ; He, CN; Shi, CS; Du, XW; Hauge, RH; Zhao, NQ	Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Synthesis of new nanohybrids/materials	CCNH
879	2012	Characterization of carbon nano-onions for heavy metal ion remediation	Seymour, MB; Su, CM; Gao, Y; Lu, YF; Li, YS	Chemistry, Multidisciplinary; Nanoscience & Nanotechnology; Materials Science, Multidisciplinary	Nanoonion	Adsorption studies	CCNH
880	2012	Platinum Electrodeposition on Unsupported Carbon Nano-Onions	Santiago, D; Rodriguez-Calero, GG; Palkar, A; Barraza-Jimenez, D; Galvan, DH; Casillas, G; Mayoral, A; Jose-Yacaman, M; Echegoyen, L; Cabrera, CR	Chemistry, Multidisciplinary; Chemistry, Physical; Materials Science, Multidisciplinary	Nanoonion	Adsorption studies	CCNH
881	2012	Preparation and Characterization of Carbon Nano-Onion/PEDOT:PSS Composites	Plonska-Brzezinska, ME; Lewandowski, M; Blaszyk, M; Molina-Ontoria, A; Lucinski, T; Echegoyen, L	Chemistry, Physical; Physics, Atomic, Molecular & Chemical	Nanoonion	Synthesis of new nanohybrids/materials	CCNH

Table S4. Specific examples of nanohybrid class, specific type of nanohybrid, and synthesis process used

NH class	Specific types	Synthesis process used	References
CCNH	Fullerene-CNT peapods	Thermal annealing of SWNTs	Smith, B. W.; Monthieux, M.; Luzzi, D. E., Encapsulated C-60 in carbon nanotubes. <i>Nature</i> 1998 , 396, (6709), 323-324
		Refluxing mixture of fullerenes and SWNTs in n-hexane solvent	Simon, F.; Kuzmany, H.; Rauf, H.; Pichler, T.; Bernardi, J.; Peterlik, H.; Korecz, L.; Fülöp, F.; Jánosy, A., Low temperature fullerene encapsulation in single wall carbon nanotubes: synthesis of N@C60@SWCNT. <i>Chemical Physics Letters</i> 2004 , 383, (3-4), 362-367.
	Graphene-CNT peapods	In-situ growth from vapor-based deposition reactions	Ly, R.; Cui, T.; Jun, M.-S.; Zhang, Q.; Cao, A.; Su, D. S.; Zhang, Z.; Yoon, S.-H.; Miyawaki, J.; Mochida, I.; Kang, F., Open-Ended, N-Doped Carbon Nanotube-Graphene Hybrid Nanostructures as High-Performance Catalyst Support. <i>Adv. Funct. Mater.</i> 2011 , 21, (5), 999-1006.
	Carbon nano-onions	Water assisted arc discharge	Imasaka, K.; Kanatake, Y.; Ohshiro, Y.; Suehiro, J.; Hara, M., Production of carbon nanoonions and nanotubes using an intermittent arc discharge in water. <i>Thin Solid Films</i> 2006 , 506, 250-254.
Chemical vapor depositon: Catalytic deposition decomposition of acetylene using Fe/Al ₂ O ₃ as catalyst		Liu, X.; Wang, C.; Yang, Y.; Guo, X.; Wen, H.; Xu, B., Synthesis of nano onion-like fullerenes by using Fe/Al ₂ O ₃ as catalyst by chemical vapor deposition. <i>Chinese Science Bulletin</i> 2009 , 54, (1), 137-141.	
Water and thermal annealing of fullerenes		Palkar, A.; Melin, F.; Cardona, C. M.; Elliott, B.; Naskar, A. K.; Edie, D. D.; Kumbhar, A.; Echegoyen, L., Reactivity differences between carbon nano onions (CNOs) prepared by different methods. <i>Chem.-Asian J.</i> 2007 , 2, (5), 625-633	
CNT-graphene exohedral hybrid	In-situ growth of SWNTs from the graphene (Co-valent structure)	Arc discharge	Zhang, H. X.; Wang, X. M.; Wang, H. Y.; Liu, X. G.; Xu, B. S., The preparation of nano-onion-like fullerenes by arc discharge. <i>New Carbon Materials</i> 2004 , 19, (1), 61-64.
		Ultrasonic mixing of graphene oxide and CNT colloidal suspensions (Non-covalent)	Zhu, Y.; Li, L.; Zhang, C. G.; Casillas, G.; Sun, Z. Z.; Yan, Z.; Ruan, G. D.; Peng, Z. W.; Raji, A. R. O.; Kittrell, C.; Hauge, R. H.; Tour, J. M., A seamless three-dimensional carbon nanotube graphene hybrid material. <i>Nat. Commun.</i> 2012 , 3.
	Layer-by-layer assemblies by dipping substrate alternately in solutions of functionalized CNTs and polymer-graphene suspension	Chen, S.; Yeoh, W.; Liu, Q.; Wang, G., Chemical-free synthesis of graphene-carbon nanotube hybrid materials for reversible lithium storage in lithium-ion batteries. <i>Carbon</i> 2012 , 50, (12), 4557-4565	
Fullerene-graphene hybrid	Non-covalent functionalization using pyrene as linker	Yu, D.; Dai, L., Self-Assembled Graphene/Carbon Nanotube Hybrid Films for Supercapacitors. <i>The Journal of Physical Chemistry Letters</i> 2009 , 1, (2), 467-470	
		Qu, S.; Li, M.; Xie, L.; Huang, X.; Yang, J.; Wang, N.; Yang, S., Noncovalent Functionalization of Graphene Attaching 6,6 -Phenyl-C61-butryic Acid Methyl Ester (PCBM) and Application as Electron Extraction Layer of Polymer Solar Cells. <i>ACS nano</i> 2013 , 7, (5), 4070-81	
CNT-fullerene exohedral hybrid	Covalent functionalization of CNTs by fullerene derivatives	Wang, J.; Wang, Y.; He, D.; Wu, H.; Wang, H.; Zhou, P.; Fu, M., Influence of Polymer/Fullerene-Graphene Structure on Organic Polymer Solar Devices. <i>Integrated Ferroelectrics</i> 2012 , 137, (1), 1-9.	
		Wu, W.; Zhu, H. R.; Fan, L. Z.; Yang, S. H., Synthesis and characterization of a grapevine nanostructure consisting of single-walled carbon nanotubes with covalently attached 60 fullerene balls. <i>Chem.-Eur. J.</i> 2008 , 14, (19), 5981-5987.	
CMNH	Metal inside fullerenes	Catalytic vapor decomposition on iron catalyst for Nano-bud formation	Nasibulin, A. G.; Pikhitsa, P. V.; Jiang, H.; Brown, D. P.; Krashennnikov, A. V.; Anisimov, A. S.; Queipo, P.; Moisala, A.; Gonzalez, D.; Lientschnig, G.; Hassanien, A.; Shandakov, S. D.; Lolli, G.; Resasco, D. E.; Choi, M.; Tomanek, D.; Kauppinen, E. I., A novel hybrid carbon material. <i>Nat Nano</i> 2007 , 2, (3), 156-161
		Vapor deposition using ferrocene pyrolysis	Watts, P. C. P.; Hsu, W. K.; Randall, D. P.; Kotzeva, V.; Chen, G. Z., Fe-filled carbon nanotubes: Nano-electromagnetic inductors. <i>Chemistry of Materials</i> 2002 , 14, (11), 4505-4508

NH class	Specific types	Synthesis process used	References
		Heating SWNT with molten metal	Thamavaranukup, N.; Hoppe, H. A.; Ruiz-Gonzalez, L.; Costa, P.; Sloan, J.; Kirkland, A.; Green, M. L. H., Single-walled carbon nanotubes filled with M OH (M = K, Cs) and then washed and refilled with clusters and molecules. <i>Chemical Communications</i> 2004 , (15), 1686-1687
		Thermal annealing of SWNTs	Chancolon, J.; Archaimbault, F.; Pineau, A.; Bonnamy, S., Filling of carbon nanotubes with selenium by vapor phase process. <i>J. Nanosci. Nanotechnol.</i> 2006 , 6, (1), 82-86 Kim, B. M.; Qian, S.; Bau, H. H., Filling carbon nanotubes with particles. <i>Nano Lett.</i> 2005 , 5, (5), 873-878
		Wet capillary approach	Dujardin, e.; ebbesen, t. W.; hiura, h.; tanigaki, k., Capillarity and wetting of carbon nanotubes. <i>Science</i> 1994 , 265, (5180), 1850-1852
	Endohedral metallofullerenes	Chemical vapor deposition	Shinohara, H., Endohedral metallofullerenes. <i>Reports on Progress in Physics</i> 2000 , 63, (6), 843-892
		Arc discharge	Shinohara, H.; Takata, M.; Sakata, M.; Hashizume, T.; Sakurai, T., Metallofullerenes: Their formation and characterization. In <i>Cluster Assembled Materials</i> , Sattler, K., Ed. 1996; Vol. 232, pp 207-232
	MNP-CNM conjugation via linkers	Noncovalent conjugation of SWNT and Zinc via pyrene or naphthalocyanine	Chitta, R.; Sandanayaka, A. S. D.; Schumacher, A. L.; D'Souza, L.; Araki, Y.; Ito, O.; D'Souza, F., Donor-acceptor nanohybrids of zinc naphthalocyanine or zinc porphyrin noncovalently linked to single-wall carbon nanotubes for photoinduced electron transfer. <i>J. Phys. Chem. C</i> 2007 , 111, (19), 6947-6955.
		Noncovalent conjugation of graphene and AuNP using DNA as linker	Liu, J. B.; Li, Y. L.; Li, Y. M.; Li, J. H.; Deng, Z. X., Noncovalent DNA decorations of graphene oxide and reduced graphene oxide toward water-soluble metal-carbon hybrid nanostructures via self-assembly. <i>J. Mater. Chem.</i> 2010 , 20, (5), 900-906
		TiO ₂ porphyrin dentate binding onto carboxyl functionalized carbon nanohorns	Tu, W.; Lei, J.; Ding, L.; Ju, H., Sandwich nanohybrid of single-walled carbon nanohorns-TiO ₂ -porphyrin for electrocatalysis and amperometric biosensing towards chloramphenicol. <i>Chemical Communications</i> 2009 , 0, (28), 4227-4229
	MNP direct deposition onto CNMs	Sol-gel	Ning, J. W.; Zhang, J. J.; Pan, Y. B.; Guo, J. K., Surfactants assisted processing of carbon nanotube-reinforced SiO ₂ matrix composites. <i>Ceram. Int.</i> 2004 , 30, (1), 63-67
		Sol-gel plus plasma treatment	Li, H. Q.; Ha, C. S.; Kim, I., Fabrication of Carbon Nanotube/SiO ₂ and Carbon Nanotube/SiO ₂ /Ag Nanoparticles Hybrids by Using Plasma Treatment. <i>Nanoscale Res. Lett.</i> 2009 , 4, (11), 1384-1388
		Hydrothermal	Ding, S. J.; Luan, D. Y.; Boey, F. Y. C.; Chen, J. S.; Lou, X. W., SnO ₂ nanosheets grown on graphene sheets with enhanced lithium storage properties. <i>Chemical Communications</i> 2011 , 47, (25), 7155-7157
		Aerosol-based process	
		Microemulsion	Moriguchi, I.; Hidaka, R.; Yamada, H.; Kudo, T.; Murakami, H.; Nakashima, N., A Mesoporous Nanocomposite of TiO ₂ and Carbon Nanotubes as a High-Rate Li-Intercalation Electrode Material. <i>Advanced Materials</i> 2006 , 18, (1), 69-73
		Magnetron sputtering	Wei-De, Z., Growth of ZnO nanowires on modified well-aligned carbon nanotube arrays. <i>Nanotechnology</i> 2006 , 17, (4), 1036
		Pulsed laser deposition	Ikuno, T.; Yasuda, T.; Honda, S. I.; Oura, K.; Katayama, M.; Lee, J. G.; Mori, H., Coating carbon nanotubes with inorganic materials by pulsed laser deposition. <i>J. Appl. Phys.</i> 2005 , 98, (11)
		Chemical vapor deposition	Kuang, Q.; Li, S.-F.; Xie, Z.-X.; Lin, S.-C.; Zhang, X.-H.; Xie, S.-Y.; Huang, R.-B.; Zheng, L.-S., Controllable fabrication of SnO ₂ -coated multiwalled carbon nanotubes by chemical vapor deposition. <i>Carbon</i> 2006 , 44, (7), 1166-1172

NH class	Specific types	Synthesis process used	References
		Atomic layer deposition	Gomathi, A.; Vivekchand, S. R. C.; Govindaraj, A.; Rao, C. N. R., Chemically Bonded Ceramic Oxide Coatings on Carbon Nanotubes and Inorganic Nanowires. <i>Advanced Materials</i> 2005 , <i>17</i> , (22), 2757-2761
		Chemical redox	Sivakkumar, S. R.; Ko, J. M.; Kim, D. Y.; Kim, B. C.; Wallace, G. G., Performance evaluation of CNT/polypyrrole/MnO ₂ composite electrodes for electrochemical capacitors. <i>Electrochimica Acta</i> 2007 , <i>52</i> , (25), 7377-7385
		Electrodeposition	Lee, C. Y.; Tsai, H. M.; Chuang, H. J.; Li, S. Y.; Lin, P.; Tseng, T. Y., Characteristics and electrochemical performance of supercapacitors with manganese oxide-carbon nanotube nanocomposite electrodes. <i>Journal of the Electrochemical Society</i> 2005 , <i>152</i> , (4), A716-A720
		Electroless deposition	Qu, L.; Dai, L., Substrate-Enhanced Electroless Deposition of Metal Nanoparticles on Carbon Nanotubes. <i>J. Am. Chem. Soc.</i> 2005 , <i>127</i> , (31), 10806-10807
MMNH	Bimetallic core-shell or alloy-like NHs	Microwave-polyol (sequential reduction)	Tsuji, M.; Miyamae, N.; Lim, S.; Kimura, K.; Zhang, X.; Hikino, S.; Nishio, M., Crystal Structures and Growth Mechanisms of Au@Ag Core-Shell Nanoparticles Prepared by the Microwave-Polyol Method. <i>Crystal Growth & Design</i> 2006 , <i>6</i> , (8), 1801-1807
		Photo-chemical deposition	Wang, C.-y.; Liu, C.-y.; Zheng, X.; Chen, J.; Shen, T., The surface chemistry of hybrid nanometer-sized particles I. Photochemical deposition of gold on ultrafine TiO ₂ particles. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 1998 , <i>131</i> , (1-3), 271-280
		Electroless plating	Kim, S.-D.; Choe, W.-G.; Jeong, J.-R., Environmentally friendly electroless plating for Ag/TiO ₂ -coated core-shell magnetic particles using ultrasonic treatment. <i>Ultrasonics Sonochemistry</i> 2013 , <i>20</i> , (6), 1456-1462
		Solvothermal	Sun, M.; Fu, W.; Yang, H.; Sui, Y.; Zhao, B.; Yin, G.; Li, Q.; Zhao, H.; Zou, G., One-step synthesis of coaxial Ag/TiO ₂ nanowire arrays on transparent conducting substrates: Enhanced electron collection in dye-sensitized solar cells. <i>Electrochemistry Communications</i> 2011 , <i>13</i> , (12), 1324-1327
		Hydrothermal	Muduli, S.; Game, O.; Dhas, V.; Vijayamohan, K.; Bogle, K. A.; Valanoor, N.; Ogale, S. B., TiO ₂ -Au plasmonic nanocomposite for enhanced dye-sensitized solar cell (DSSC) performance. <i>Solar Energy</i> 2012 , <i>86</i> , (5), 1428-1434
		Sol-gel	Ohno, T.; Tagawa, S.; Itoh, H.; Suzuki, H.; Matsuda, T., Size effect of TiO ₂ -SiO ₂ nano-hybrid particle. <i>Mater. Chem. Phys.</i> 2009 , <i>113</i> , (1), 119-123
		Ion implantation within polymer matrix	Peña, O.; Pal, U.; Rodríguez-Fernández, L.; Silva-Pereyra, H. c. G.; Rodríguez-Iglesias, V.; Cheang-Wong, J. C.; Arenas-Alatorre, J. s.; Oliver, A., Formation of Au-Ag Core-Shell Nanostructures in Silica Matrix by Sequential Ion Implantation. <i>The Journal of Physical Chemistry C</i> 2009 , <i>113</i> , (6), 2296-2300
		Epitaxial growth	Sánchez-Iglesias, A.; Carbó-Argibay, E.; Glaria, A.; Rodríguez-González, B.; Pérez-Juste, J.; Pastoriza-Santos, I.; Liz-Marzán, L. M., Rapid Epitaxial Growth of Ag on Au Nanoparticles: From Au Nanorods to Core-Shell Au@Ag Octahedrons. <i>Chemistry – A European Journal</i> 2010 , <i>16</i> , (19), 5558-5563
		Flame-aerosol	Johannessen, T.; Jenson, J. R.; Mosleh, M.; Johansen, J.; Quaade, U.; Livbjerg, H., Flame synthesis of nanoparticles - Applications in catalysis and product/process engineering. <i>Chemical Engineering Research & Design</i> 2004 , <i>82</i> , (A11), 1444-1452
		Plasma assisted deposition	Kim, S. H.; Jung, C.-H.; Sahu, N.; Park, D.; Yun, J. Y.; Ha, H.; Park, J. Y., Catalytic activity of Au/TiO ₂ and Pt/TiO ₂ nanocatalysts prepared with arc plasma deposition under CO oxidation. <i>Applied Catalysis A: General</i> 2013 , <i>454</i> , (0), 53-58

NH class	Specific types	Synthesis process used	References
		Sonochemical co-reduction of metal salts	Anandan, S.; Grieser, F.; Ashokkumar, M., Sonochemical Synthesis of Au–Ag Core–Shell Bimetallic Nanoparticles. <i>The Journal of Physical Chemistry C</i> 2008 , <i>112</i> , (39), 15102-15105
		Optical lithography for patterned growth	Liu, F.-K.; Huang, P.-W.; Chang, Y.-C.; Ko, F.-H.; Chu, T.-C., Combining Optical Lithography with Rapid Microwave Heating for the Selective Growth of Au/Ag Bimetallic Core/Shell Structures on Patterned Silicon Wafers. <i>Langmuir</i> 2005 , <i>21</i> , (6), 2519-2525
		Template-based growth processes can be used to obtain hollow spherical, porous, or tubular structures	(1) Zhang, J.; Zhan, P.; Liu, H.; Wang, Z.; Ming, N., A facile colloidal templating method to monodisperse hollow Ag and Ag/Au submicrometer spheres. <i>Mater. Lett.</i> 2006 , <i>60</i> , (2), 280-283. (2) Wang, X.; Mitchell, D. R. G.; Prince, K.; Atanacio, A. J.; Caruso, R. A., Gold Nanoparticle Incorporation into Porous Titania Networks Using an Agarose Gel Templating Technique for Photocatalytic Applications. <i>Chemistry of Materials</i> 2008 , <i>20</i> , (12), 3917-3926. (3) Chueh, Y. L.; Chou, L. J.; Wang, Z. L., SiO ₂ /Ta ₂ O ₅ core-shell nanowires and nanotubes. <i>Angew. Chem.-Int. Edit.</i> 2006 , <i>45</i> , (46), 7773-7778.
		Water-in-oil microemulsion	Wu, M.-L.; Lai, L.-B., Synthesis of Pt/Ag bimetallic nanoparticles in water-in-oil microemulsions. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 2004 , <i>244</i> , (1–3), 149-157
		Nano-emulsion	Liu, H.; Wu, J.; Min, J. H.; Zhang, X.; Kim, Y. K., Tunable synthesis and multifunctionalities of Fe ₃ O ₄ –ZnO hybrid core-shell nanocrystals. <i>Materials Research Bulletin</i> 2013 , <i>48</i> , (2), 551-558
		Layer-by-layer reverse micellization	Fan, J. W.; Tseng, T. T.; Chen, C. N.; Wei, M. H.; Tseng, W. J., Preparation of ITO/Ag nanohybrid particles by a reverse micellar layer-by-layer coating. <i>Ceram. Int.</i> 2011 , <i>37</i> , (1), 43-47
		Physisorption of MNPs on polymer modified MNPs	Zhai, Y.; Zhai, J.; Wang, Y.; Guo, S.; Ren, W.; Dong, S., Fabrication of Iron Oxide Core/Gold Shell Submicrometer Spheres with Nanoscale Surface Roughness for Efficient Surface-Enhanced Raman Scattering. <i>The Journal of Physical Chemistry C</i> 2009 , <i>113</i> , (17), 7009-7014
		Biogenic process using natural extracts as solvent or reducing agents	Shankar, S. S.; Rai, A.; Ahmad, A.; Sastry, M., Rapid synthesis of Au, Ag, and bimetallic Au core–Ag shell nanoparticles using Neem (<i>Azadirachta indica</i>) leaf broth. <i>Journal of Colloid and Interface Science</i> 2004 , <i>275</i> , (2), 496-502
OMCNH		NM surface functionalization with organic molecules	D'Souza, F.; Ito, O., Supramolecular donor-acceptor hybrids of porphyrins/phthalocyanines with fullerenes/carbon nanotubes: electron transfer, sensing, switching, and catalytic applications. <i>Chemical Communications</i> 2009 , (33), 4913-4928
		electrochemical immobilization of biomolecules	Xue, M. H.; Xu, Q.; Zhou, M.; Zhu, J. J., In situ immobilization of glucose oxidase in chitosan-gold nanoparticle hybrid film on Prussian Blue modified electrode for high-sensitivity glucose detection. <i>Electrochemistry Communications</i> 2006 , <i>8</i> , (9), 1468-1474
		Polymer grafting from or grafted to NM surfaces	(1) Achilleos, D. S.; Vamvakaki, M., End-Grafted Polymer Chains onto Inorganic Nano-Objects. <i>Materials</i> 2010 , <i>3</i> , (3), 1981-2026. (2) Wu, W. T.; Shen, J.; Banerjee, P.; Zhou, S. Q., Core-shell hybrid nanogels for integration of optical temperature-sensing, targeted tumor cell imaging, and combined chemo-photothermal treatment. <i>Biomaterials</i> 2010 , <i>31</i> , (29), 7555-7566 (3) Tagliazucchi, M.; Blaber, M. G.; Schatz, G. C.; Weiss, E. A.; Szleifert, I., Optical Properties of Responsive Hybrid Au@Polymer Nanoparticles. <i>ACS nano</i> 2012 , <i>6</i> , (9), 8397-8406.

NH class	Specific types	Synthesis process used	References
		Emulsification	Tian, J.; Jin, J.; Zheng, F.; Zhao, H. Y., Self-Assembly of Gold Nanoparticles and Polystyrene: A Highly Versatile Approach to the Preparation of Colloidal Particles with Polystyrene Cores and Gold Nanoparticle Coronae. <i>Langmuir</i> 2010 , <i>26</i> , (11), 8762-8768
		Ion-exchange	Qiu, L. H.; Peng, Y. J.; Liu, B. Q.; Lin, B. C.; Peng, Y.; Malik, M. J.; Yan, F., Polypyrrole nanotube-supported gold nanoparticles: An efficient electrocatalyst for oxygen reduction and catalytic reduction of 4-nitrophenol. <i>Applied Catalysis a-General</i> 2012 , <i>413</i> , 230-237

Table S5. Specific examples of class, specific type, and potential application of nanohybrids

NH class	Specific types	Applications	References
CCNH	Fullerene-CNT peapods	Field effect transistors	Shimada, T.; Ohno, Y.; Okazaki, T.; Sugai, T.; Suenaga, K.; Kishimoto, S.; Mizutani, T.; Inoue, T.; Taniguchi, R.; Fukui, N.; Okubo, H.; Shinohara, H., Transport properties of C-78, C-90 and Dy@C-82 fullerenes-nanopeapods by field effect transistors. <i>Physica E</i> 2004 , <i>21</i> , (2-4), 1089-1092. Li, Y.; Kaneko, T.; Hatakeyama, R. In <i>Photoresponse of fullerene and azafullerene peapod field effect transistors</i> , Nanotechnology, 2009. IEEE-NANO 2009. 9th IEEE Conference on, 26-30 July 2009, 2009; 2009; pp 86-89 Li, Y. F.; Kaneko, T.; Hatakeyama, R., Electrical transport properties of fullerene peapods interacting with light. <i>Nanotechnology</i> 2008 , <i>19</i> , (41), 415201
		Lithium ion storage	Kawasaki, S.; Iwai, Y.; Hirose, M., Electrochemical lithium ion storage property of C60 encapsulated single-walled carbon nanotubes. <i>Materials Research Bulletin</i> 2009 , <i>44</i> , (2), 415-417
	Graphene-CNT peapods	Catalyst support	Lv, R.; Cui, T.; Jun, M.-S.; Zhang, Q.; Cao, A.; Su, D. S.; Zhang, Z.; Yoon, S.-H.; Miyawaki, J.; Mochida, I.; Kang, F., Open-Ended, N-Doped Carbon Nanotube-Graphene Hybrid Nanostructures as High-Performance Catalyst Support. <i>Adv. Funct. Mater.</i> 2011 , <i>21</i> , (5), 999-1006.
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		Fuel cell	Jha, N.; Jafri, R. I.; Rajalakshmi, N.; Ramaprabhu, S., Graphene-multi walled carbon nanotube hybrid electrocatalyst support material for direct methanol fuel cell. <i>International Journal of Hydrogen Energy</i> 2011 , <i>36</i> , (12), 7284-7290.
		Lithium ion storage	Jha, N.; Jafri, R. I.; Rajalakshmi, N.; Ramaprabhu, S., Graphene-multi walled carbon nanotube hybrid electrocatalyst support material for direct methanol fuel cell. <i>International Journal of Hydrogen Energy</i> 2011 , <i>36</i> , (12), 7284-7290.

NH class	Specific types	Applications	References
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		Biosensors	Mani, V.; Devadas, B.; Chen, S. M., Direct electrochemistry of glucose oxidase at electrochemically reduced graphene oxide-multiwalled carbon nanotubes hybrid material modified electrode for glucose biosensor. <i>Biosens. Bioelectron.</i> 2013 , <i>41</i> , 309-315
		Contaminant removal	Ai, L.; Jiang, J., Removal of methylene blue from aqueous solution with self-assembled cylindrical graphene-carbon nanotube hybrid. <i>Chemical Engineering Journal</i> 2012 , <i>192</i> , 156-163.
		Heat transfer application	Aravind, S. S. J.; Ramaprabhu, S., Graphene wrapped multiwalled carbon nanotubes dispersed nanofluids for heat transfer applications. <i>J. Appl. Phys.</i> 2012 , <i>112</i> , (12)
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	Fullerene-graphene hybrid	Organic photovoltaics	(1) Qu, S.; Li, M.; Xie, L.; Huang, X.; Yang, J.; Wang, N.; Yang, S., Noncovalent Functionalization of Graphene Attaching 6,6-Phenyl-C61-butyrac Acid Methyl Ester (PCBM) and Application as Electron Extraction Layer of Polymer Solar Cells. <i>ACS nano</i> 2013 , <i>7</i> , (5), 4070-81. (2) Wang, J.; Wang, Y.; He, D.; Wu, H.; Wang, H.; Zhou, P.; Fu, M., Influence of Polymer/Fullerene-Graphene Structure on Organic Polymer Solar Devices. <i>Integrated Ferroelectrics</i> 2012 , <i>137</i> , (1), 1-9. (3) Yang, J.; Heo, M.; Lee, H. J.; Park, S. M.; Kim, J. Y.; Shin, H. S., Reduced Graphene Oxide (rGO)-Wrapped Fullerene (C-60) Wires. <i>ACS nano</i> 2011 , <i>5</i> , (10), 8365-8371
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	CNT-fullerene exohedral hybrid	Organic photovoltaics	Wu, W.; Zhu, H. R.; Fan, L. Z.; Yang, S. H., Synthesis and characterization of a grapevine nanostructure consisting of single-walled carbon nanotubes with covalently attached 60 fullerene balls. <i>Chem.-Eur. J.</i> 2008 , <i>14</i> , (19), 5981-5987.
	CNT-fullerene-graphene hybrid	Organic optoelectronics	Tung, V. C.; Huang, J. H.; Tevis, I.; Kim, F.; Kim, J.; Chu, C. W.; Stupp, S. I.; Huang, J. X., Surfactant-Free Water-Processable Photoconductive All-Carbon Composite. <i>J. Am. Chem. Soc.</i> 2011 , <i>133</i> , (13), 4940-4947
CMNH	Exohedral hybrids	Photovoltaics and solar cells	Kim, H.-i.; Moon, G.-h.; Monllor-Satoca, D.; Park, Y.; Choi, W., Solar Photoconversion Using Graphene/TiO ₂ Composites: Nanographene Shell on TiO ₂ Core versus TiO ₂ Nanoparticles on Graphene Sheet. <i>J. Phys. Chem. C</i> 2012 , <i>116</i> , (1), 1535-1543 Yin, Z.; Wu, S.; Zhou, X.; Huang, X.; Zhang, Q.; Boey, F.; Zhang, H., Electrochemical Deposition of ZnO Nanorods on Transparent Reduced Graphene Oxide Electrodes for Hybrid Solar Cells. <i>Small</i> 2010 , <i>6</i> , (2), 307-312.
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		Electrochemical sensing	Guo, S.; Wen, D.; Zhai, Y.; Dong, S.; Wang, E., Platinum Nanoparticle Ensemble-on-Graphene Hybrid Nanosheet: One-Pot, Rapid Synthesis, and Used as New Electrode Material for Electrochemical Sensing. <i>ACS nano</i> 2010 , <i>4</i> , (7), 3959-3968
		Bio-imaging and drug delivery	Chen, M.-L.; He, Y.-J.; Chen, X.-W.; Wang, J.-H., Quantum Dots Conjugated with Fe ₃ O ₄ -Filled Carbon Nanotubes for Cancer-Targeted Imaging and Magnetically Guided Drug Delivery. <i>Langmuir</i> 2012 , <i>28</i> , (47), 16469-16476 Li, W. W.; Gao, C.; Qian, H. F.; Ren, J. C.; Yan, D. Y., Multiamino-functionalized carbon nanotubes and their applications in loading quantum dots and magnetic nanoparticles. <i>J. Mater. Chem.</i> 2006 , <i>16</i> , (19), 1852-1859
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		Antimicrobial	Kavitha, T.; Gopalan, A. I.; Lee, K.-P.; Park, S.-Y., Glucose sensing, photocatalytic and antibacterial properties of graphene-ZnO nanoparticle hybrids. <i>Carbon</i> 2012 , <i>50</i> , (8), 2994-3000 Das, M. R.; Sarma, R. K.; Saikia, R.; Kale, V. S.; Shelke, M. V.; Sengupta, P., Synthesis of silver nanoparticles in an aqueous suspension of graphene oxide sheets and its antimicrobial activity. <i>Colloids and Surfaces B: Biointerfaces</i> 2011 , <i>83</i> , (1), 16-22
	Endohedral metallofullerenes	MRI agent	Bolskar, R. D., Gadofullerene MRI contrast agents. <i>Nanomedicine</i> 2008 , <i>3</i> , (2), 201-213. Toth, E.; Bolskar, R. D.; Borel, A.; Gonzalez, G.; Helm, L.; Merbach, A. E.; Sitharaman, B.; Wilson, L. J., Water-soluble gadofullerenes: Toward high-relaxivity, pH-responsive MRI contrast agents. <i>J. Am. Chem. Soc.</i> 2005 , <i>127</i> , (2), 799-805
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		Catalysis	Shinde, V. M.; Madras, G., Low temperature CO oxidation and water gas shift reaction over Pt/Pd substituted in Fe/TiO ₂ catalysts. <i>International Journal of Hydrogen Energy</i> 2012 , <i>37</i> , (24), 18798-18814
		Bioimaging and cancer therapy	Timothy, A. L.; James, B.; Jesse, A.; Konstantin, S., Hybrid plasmonic magnetic nanoparticles as molecular specific agents for MRI/optical imaging and photothermal therapy of cancer cells. <i>Nanotechnology</i> 2007 , <i>18</i> , (32), 325101 Fan, Z.; Shelton, M.; Singh, A. K.; Senapati, D.; Khan, S. A.; Ray, P. C., Multifunctional Plasmonic Shell–Magnetic Core Nanoparticles for Targeted Diagnostics, Isolation, and Photothermal Destruction of Tumor Cells. <i>ACS nano</i> 2012 , <i>6</i> , (2), 1065-1073.
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		Contaminant degradation	Costi, R.; Saunders, A. E.; Elmalem, E.; Salant, A.; Banin, U., Visible light-induced charge retention and photocatalysis with hybrid CdSe-Au nanodumbbells. <i>Nano Lett.</i> 2008 , <i>8</i> , (2), 637-641 Wang, X.; Mitchell, D. R. G.; Prince, K.; Atanacio, A. J.; Caruso, R. A., Gold Nanoparticle Incorporation into Porous Titania Networks Using an Agarose Gel Templating Technique for Photocatalytic Applications. <i>Chemistry of Materials</i> 2008 , <i>20</i> , (12), 3917-3926 Veres, A.; Rica, T.; Janovak, L.; Domok, M.; Buzas, N.; Zollmer, V.; Seemann, T.; Richardt, A.; Dekany, I., Silver and gold modified plasmonic TiO ₂ hybrid films for photocatalytic decomposition of ethanol under visible light. <i>Catalysis Today</i> 2012 , <i>181</i> , (1), 156-162 Yu, H.; Ming, H.; Zhang, H.; Li, H.; Pan, K.; Liu, Y.; Wang, F.; Gong, J.; Kang, Z., Au/ZnO nanocomposites: Facile fabrication and enhanced photocatalytic activity for degradation of benzene. <i>Mater. Chem. Phys.</i> 2012 , <i>137</i> , (1), 113-117
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OMCNH		Photovoltaics	D'Souza, F.; Ito, O., Supramolecular donor-acceptor hybrids of porphyrins/phthalocyanines with fullerenes/carbon nanotubes: electron transfer, sensing, switching, and catalytic applications. <i>Chemical Communications</i> 2009 , (33), 4913-4928

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		Chemical and bio-sensing	Ovádeková, R.; Jantová, S.; Letašiová, S.; Štěpánek, I.; Labuda, J., Nanostructured electrochemical DNA biosensors for detection of the effect of berberine on DNA from cancer cells. <i>Analytical and Bioanalytical Chemistry</i> 2006 , <i>386</i> , (7-8), 2055-2062. Qian, L.; Yang, X., Composite film of carbon nanotubes and chitosan for preparation of amperometric hydrogen peroxide biosensor. <i>Talanta</i> 2006 , <i>68</i> , (3), 721-727
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		Drug delivery	Gibson, J. D.; Khanal, B. P.; Zubarev, E. R., Paclitaxel-functionalized gold nanoparticles. <i>J. Am. Chem. Soc.</i> 2007 , <i>129</i> , (37), 11653-11661 Hu, Y.; Chen, Q.; Ding, Y.; Li, R. T.; Jiang, X. Q.; Liu, B. R., Entering and Lighting Up Nuclei Using Hollow Chitosan-Gold Hybrid Nanospheres. <i>Advanced Materials</i> 2009 , <i>21</i> , (36), 3639-+
