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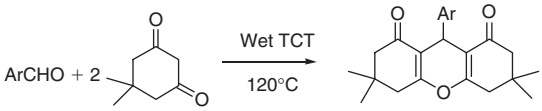
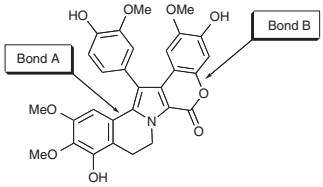
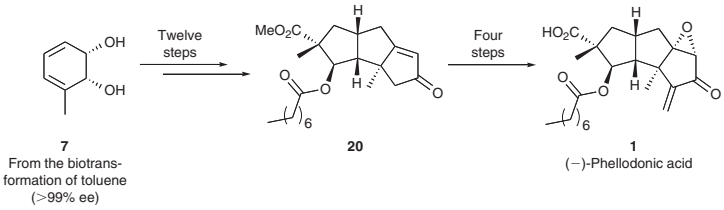
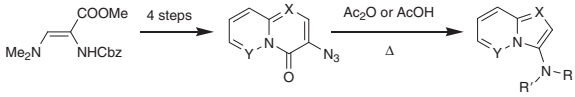
Rapid Communication



Full Papers







X = C-COOEt, C-CN, N; Y = CH, N; R, R′ = H, Ac

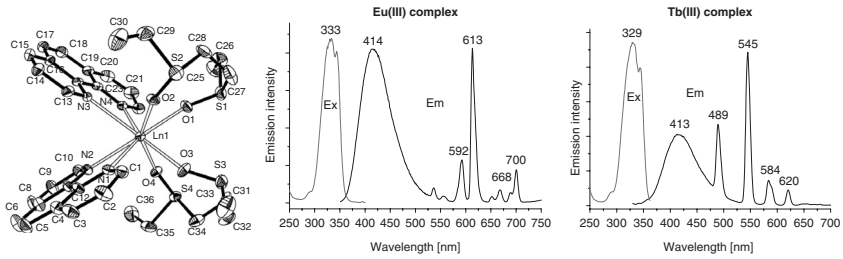
0004-9425/08/0200iv

Luminescent Lanthanide Complexes with 1,2-Bis(ethylsulfinyl)ethane: Structural Dependences on Reacting Solvent, Ratio, and Co-Ligand

Jian-Rong Li, Ruo-Hua Zhang, Xian-He Bu

Aust. J. Chem. **2008**, *61*, 115–121.

Lanthanide coordination complexes continue to attract much attention owing to their interesting structural features and potential applicable properties. In this report, combining our reported results, on the basis of changing synthesis conditions and using co-ligand six disulfoxide–lanthanide [Eu^{III}, Gd^{III}, and Tb^{III}] complexes were synthesized and structurally characterized, as well as their photoluminescent properties were also investigated. These results show that the reaction conditions have great influences on the compositions and structures of such complexes, and the Eu^{III} and Tb^{III} complexes with 1,10-phenanthroline as co-ligand have excellent emission properties in solution at room temperature.

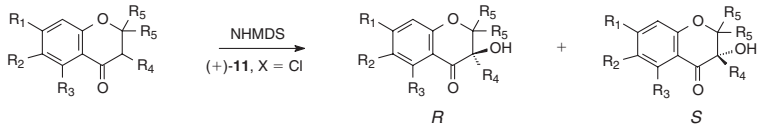


Studies Towards the Stereoselective α-Hydroxylation of Flavanones. Biosynthetic Significance

Zola-Michéle Border, Charlene Marais, Barend C. B. Bezuidenhoudt, Jacobus A. Steenkamp

Aust. J. Chem. **2008**, *61*, 122–130.

Stereoselectively hydroxylation of the enolates of various propiophenones, chromanones, and analogues of naturally occurring flavanones at the α-position with commercially available enantiopure oxaziridines produced the desired α-hydroxylated target molecules in good to exceptional stereoselectivities and in moderate to good chemical yields. The in vitro results were tentatively related to the stereoselective biosynthesis of enantio-enriched dihydroflavonols, raising questions about the authenticity of certain natural compounds.



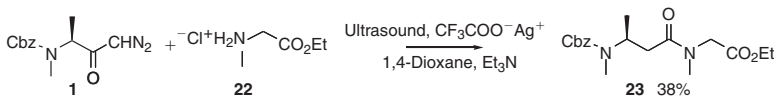
20	$R_1 = R_2 = R_3 = R_4 = R_5 = H$	**25**
21	$R_1 = OMe, R_2 = R_3 = R_4 = R_5 = H$	**26**
22	$R_1 = R_3 = OMe, R_2 = R_4 = R_5 = H$	**27**
23	$R_1 = OEt, R_2 = OMe, R_3 = R_4 = H, R_5 = Me$	**28**
24	$R_1 = R_2 = R_3 = R_5 = H, R_4 = Me$	**29**

Exploitation of the Arndt–Eistert Homologation of *N*-Methyl-α-Amino Acids for Concomitant Ester and *N*-Methyl Peptide Formation

Andrew B. Hughes, Brad E. Sleebs

Aust. J. Chem. **2008**, *61*, 131–137.

A novel reaction that couples the ketene intermediate obtained by the ultrasound-promoted Wolff rearrangement of amino acid-derived diazoketones to amino acids and *N*-methyl amino acids is reported. The dipeptides generated contain an α- and β-amino acid residue. The reaction demonstrates how rapidly a peptide chain that contains β-residues may be constructed.



Synthesis of Succinimidoalkyl-benzaldehyde Analogues: Potential Bifunctional Linkers for Bioconjugation

Ian T. Crosby, Geoffrey A. Pietersz, Justin A. Ripper

Aust. J. Chem. **2008**, *61*, 138–143.

This paper describes the synthesis of a series of benzaldehyde acetals of uridine. Variation of the *para*-substituent of the benzaldehyde used is designed to vary their acid lability. The derived materials are of potential in anticancer chemotherapy.

SEM and BET Methods for Investigating the Structure and Morphology of Co–Ce Catalysts for Production of Light Olefins

Ali A. Mirzaei, Maryam Galavy, Vahid Eslamimanesh

Aust. J. Chem. **2008**, *61*, 144–152.

The structure and morphology of Co–Ce catalysts have a great effect on the catalytic performance of the catalysts. In the present study, the structure and morphology of both precursors and calcined catalysts and subsequently their catalytic performance for production of light olefins via FT synthesis have been investigated. The obtained results compared with some other catalysts.

Controlled Synthesis of One-Dimensional Single-Crystal Co_3O_4 Nanowires

Jin Du, Lanlan Chai, Gongming Wang, Kai Li, Yitai Qian

Aust. J. Chem. **2008**, *61*, 153–158.

The shape and size of the nanostructures can be controlled through the synthesis parameters. The key effects on the morphology of the product have been investigated as well as the optical properties of the one dimensional single-crystal Co_3O_4 nanowires. This study makes it possible to synthesize high purity Co_3O_4 nanowires at high yield, opening the door to systematically understanding the properties and exploring the fabrication of nanodevices.

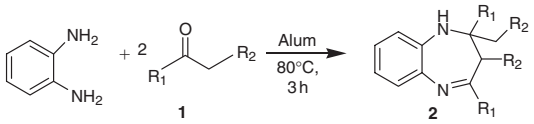
Short Communication

Alum-Catalyzed One-Pot Solventless Synthesis of 1,5-Benzodiazepines

Deepali Mahajan, Tahira Naqvi, Rattan Lal Sharma, Kamal K. Kapoor

Aust. J. Chem. **2008**, *61*, 159–162.

Alum $[KAl(SO_4)_2 \cdot 12H_2O]$ was found to be an efficient, non-toxic, cheap, and environmentally benign catalyst for the synthesis of 1,5-benzodiazepines, in good to excellent yields, from the condensation of 1 mole of *o*-phenylenediamine with 2 moles of ketones under solvent-free conditions.



R_1 = aryl or alkyl groups
R_2 = alkyl group