

## Accessory Publication

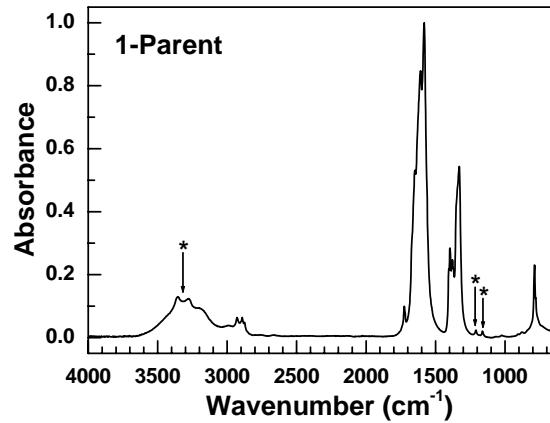


Figure A1a

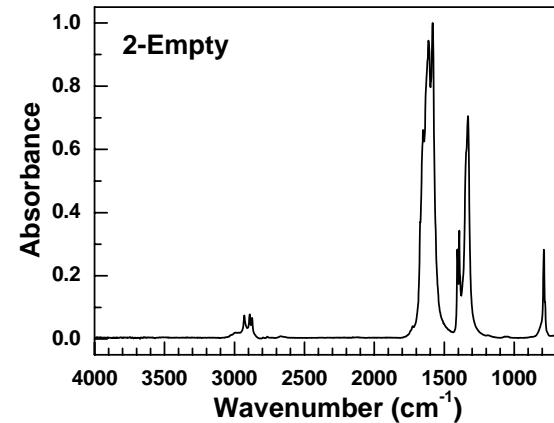


Figure A1b

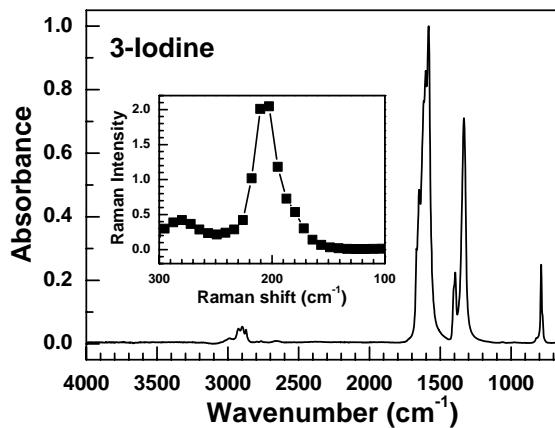


Figure A1c

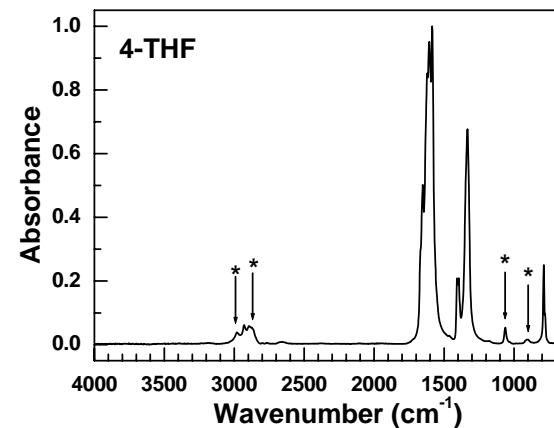


Figure A1d

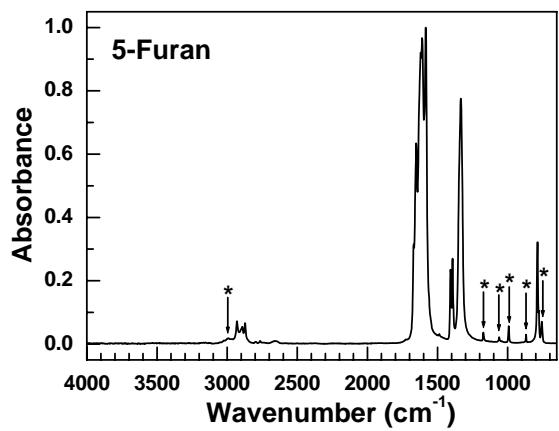


Figure A1e

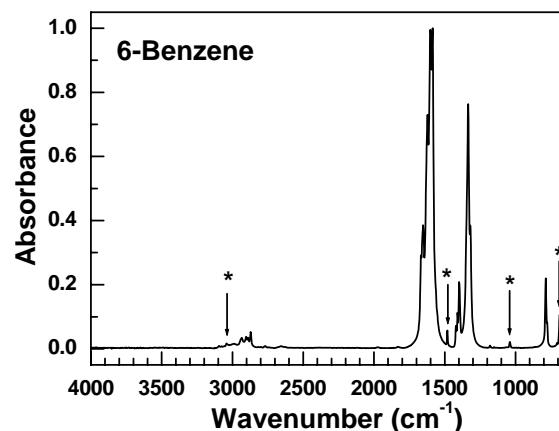


Figure A1f

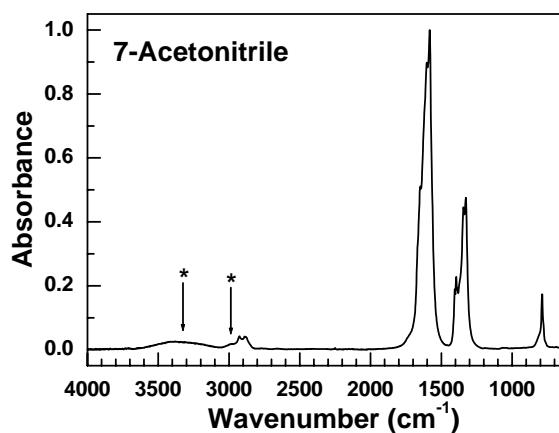


Figure A1g

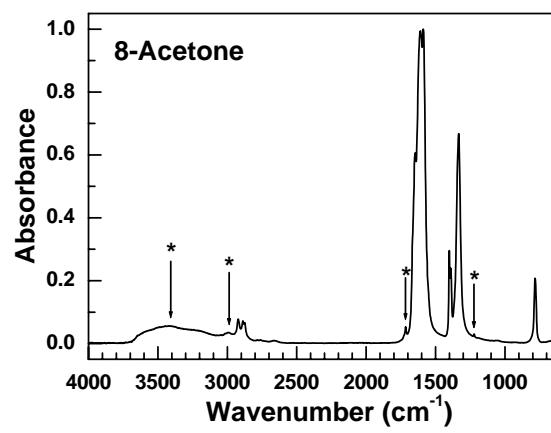
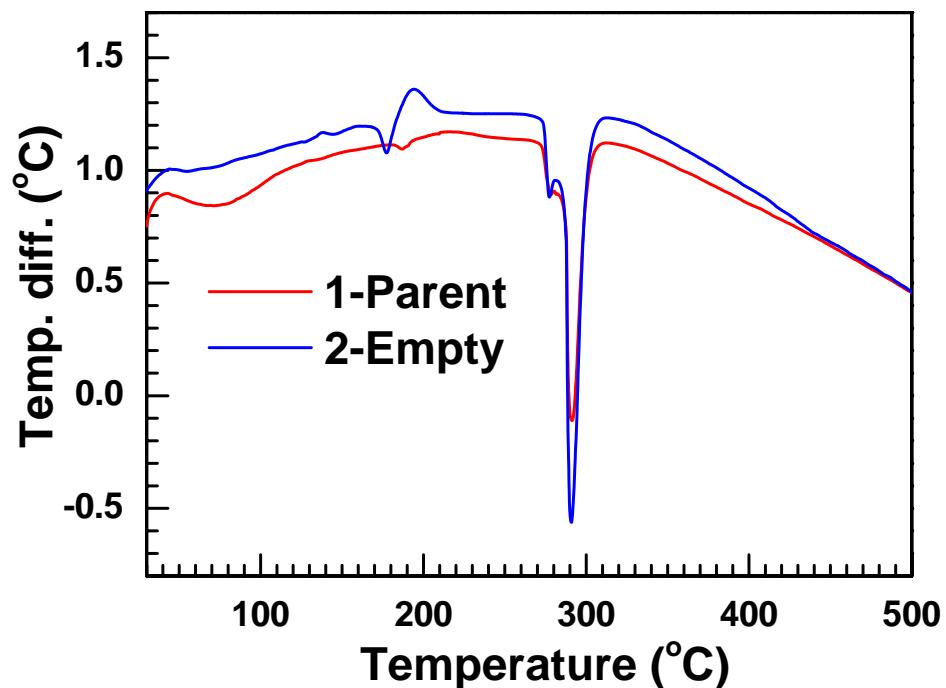
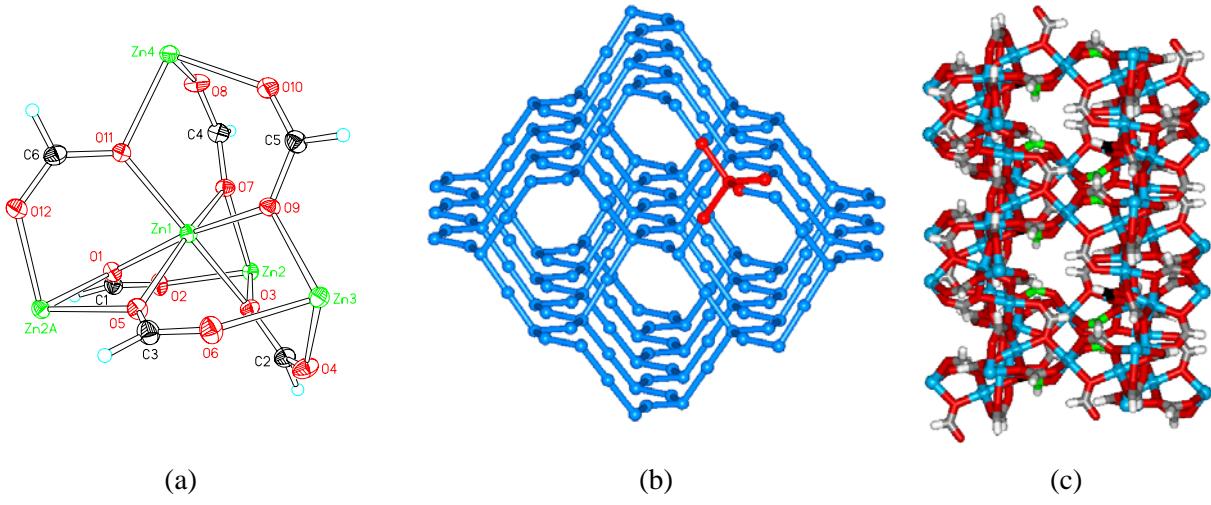


Figure A1h

**Figure A1.** Infrared absorption spectra of the eight compounds. Asterisks denote the solvent vibrational bands. Inset in (c) is the Raman spectrum showing the symmetric stretching mode of  $\text{I}_2$ .



**Figure A2.** DTA runs for **1<sub>parent</sub>** and **2<sub>empty</sub>** in N<sub>2</sub>.



**Figure A3.** The structure of  $\mathbf{2}_{\text{empty}}$ , (a) the Zn-centred ZnZn<sub>4</sub> tetrahedron; (b) the porous diamond framework formed by the tetrahedral units (one highlighted in red) as nodes sharing apices and showing open channels; (c) the side view of the channel. Color scheme: Zn blue, C grey, O red, and H white, and the C atoms of the protrude inward C-H groups, *i.e.*, the C2 in black, C4 and C5 in green, see text.