## **Selective Enclathration of Picolines**

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The host 1,1,2,2-tetraphenyl-1,2-ethane diol has been employed to separate the isomers 2-picoline (2-pic), 3-picoline (3-pic), and 4-picoline (4-pic) by selective enclathration. The crystal structures are all stabilized by (host)-O-H...N(guest) hydrogen bonds.

For any pair of guests, competition experiments were carried out by setting up vials containing the host and mixtures of the guests such that the mole fraction of a given guest varied systematically from 0 to 1. This was also done for all three guests simultaneously. The crystals obtained were analyzed by gas chromatography to give the relative amounts of each guest incorporated within the crystal. The experiments show that enclathration preferentially takes place in the order 4-pic > 3-pic > 2-pic.

The effect of adding a "neutral" (non-competitive) solvent was investigated. The effect of benzene and methanol as "neutral" solvents shows that the former is incorporated as a guest in the 4-pic structure, and enhances the enclathration of 4-pic over 3-pic. Methanol displays no such effect.

[1] Dohi K., Tanaka K., Toda F., J. Chem. Soc. Jpn., Chem. Ind. Chem., 1986, 7, 927.

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