

Poster Presentation

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Kinetics and Selectivity in Host-Guest Chemistry

L. Nassimbeni¹

¹*University of Cape Town, Chemistry Department, Rondebosch, Cape Town, South Africa*

A bulky substituted binaphthyl diol host has been employed in the separation of picolines. The selectivity profiles for pairs of picolines and for all three picolines, have been determined. The results are correlated with measurements of thermal stability and structure. The solid-vapour kinetics of a xanthenol host with volatile guests have been studied. Both the enclathration and the decomposition reactions were analysed. The kinetic laws, rate constants and activation energies were derived. Special balances which were constructed for the kinetics of enclathration will be described. The single crystal to single crystal reaction of a xanthenol host, in which the chlorobenzene guest was exchanged with toluene, was followed at the molecular level by repeated crystal structure analyses.

Keywords: Kinetics, Guest-exchange, Structure