

Adsorption and separation of light alkane hydrocarbons by porous hexacyanocobaltates (III)

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The adsorption and separation of light *n*-alkane hydrocarbons (propane, butane, pentane, hexane and heptane) by zinc and cadmium hexacyanocobaltates (III) were studied from inverse gas chromatographic data. These two solids are representative of the porous frameworks found for transition metals hexacyanometallates. For cadmium, the porous framework is related to the presence of systematic vacancies for the building block, $[\text{Co}(\text{CN})_6]$, while for Zn it is a consequence of a tetrahedral coordination for the Zn atom. These linear light hydrocarbons (paraffins) are effectively separated by these two porous frameworks. The involved differential adsorption heats and the related separation coefficients were estimated from the recorded chromatographic data. No significant differences for the separation ability of light *n*-alkane hydrocarbons by the evaluated materials were observed. Copyright © 2009 John Wiley & Sons, Ltd.

Supporting information may be found in the online version of this article.

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