# Adsorption and separation of propane and propylene by porous hexacyanometallates

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## ARTICLE INFO

## ABSTRACT

The separation capability for mixtures of propane and propylene by porous frameworks representatives of transition metal hexacyanometallates was studied from adsorption data under equilibrium conditions at 273.15 K and from inverse gas chromatography profiles at different column temperatures. Samples of two porous solids were considered; $Cd_3[Co(CN)_6]_2$, which is representative of Prussian blue analogues (cubic structure) with a porous framework related to vacancies for building block, and $Zn_3[Co(CN)_6]_2$ (rhombohedral phase) where the porous framework results from the tetrahedral coordination for the Zn atoms. The two materials were found to be able for the mixtures separation, with the highest separation ability for the rhombohedral phase under equilibrium conditions but, in dynamic conditions the cubic one shown a better separation, which was ascribed to a kinetic contribution related to a smaller windows size.