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Novel 36- and 38-Membered P,N-Containing Cyclophanes with Large Hydrophobic Cavities

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Novel 36- and 38-Membered P,N-Containing Cyclophanes with Large Hydrophobic Cavities

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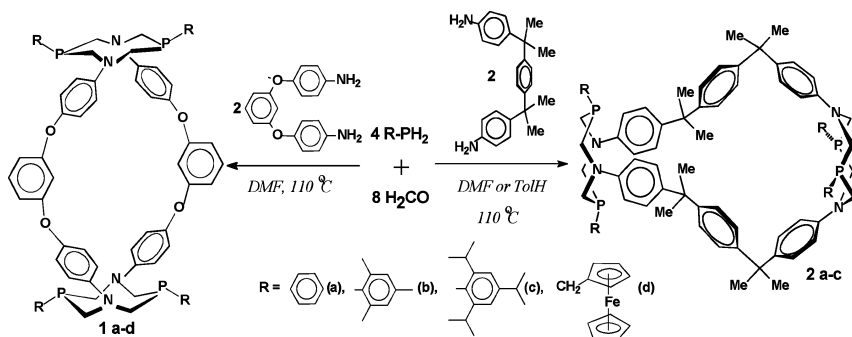
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36- and 38-membered cage P,N-containing cyclophanes were obtained by the condensation of primary phosphines with formaldehyde and diamines.

Keywords Cyclophanes; diamines self-assembly; phosphines

The novel 36- and 38-membered cage P,N-containing cyclophanes **1a–d** and **2a–c** were obtained in good yields in the course of the covalent



SCHEME 1

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self-assembly processes in three-component systems: primary phosphine-formaldehyde-diamine.

The cavity of **1a** (Scheme 1) may be described as two halves of a truncated rhombohedral prism, whereas the macrocycle **2c** shows a helical structure in crystal; the volumes of internal hydrophobic cavities are about 130–140 Å³.

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