New heterocorroles and norcorroles from dipyrrin metal complexes

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We have developed a metal-templated strategy to access novel various porphyrinoids. Dipyrrin metal complexes are a nice precursor to prepare 10-heterocorroles containing various heteroatoms (N, S, Si, P, and B) as well as norcorroles. 10-Heterocorroles exhibit tunable optical and electronic properties depending on the heteroatoms. Norcorroles are a strongly antiaromatic porphyrinoid, which shows various interesting properties such as three-dimensional aromaticity by stacking.