

**Fullerenes Encapsulating an Ytterbium Atom:
Molecular Structures and Chemical Properties**

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A series of mono-ytterbium endohedral metallofullerenes (EMFs) have been successfully synthesized and isolated. Their cage structures were systematically investigated with experimental and computational ¹³C NMR spectroscopy.¹ To seek insights into the metal location and metal-cage interactions in these Yb@C_{2n} (2n = 80, 82, 84) compounds, their cocrystals with Ni^{II}(octaethylporphyrin) were obtained and investigated with X-ray diffraction (XRD) crystallography.²

Furthermore, chemical properties of these divalent EMFs were investigated for the first time with a carbene reagent as a chemical probe and the isolated derivatives were fully characterized by using a variety of theoretical and experimental techniques, including single crystal XRD crystallography. Unique interplays between the internal divalent metal cation and the addend were observed.³

References:

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