$[Cp^*RuPb_{11}]^{3-}$ and $[Cu@Cp^*RuPb_{11}]^{2-}$: centered and non-centered transition-metal substituted zintl icosahedra

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Abstract
Cluster anions $[Cp^*RuPb_{11}]^{3-}$(1) and $[Cu@Cp^*RuPb_{11}]^{2-}$(2) represent the first vertex-substituted zintl icosahedra and1is the first non-centered zintl icosahedron isolated in the condensed phase. Complexes1and2are both 12-vertex, 26-electroncloso-clusters withC_{5v}point symmetry and are static on the^{207}Pb NMR time scale in solution.