

Reply to Comment on “Methylmagnesium Alkoxide Clusters with Mg_4O_4 Cubane- and Mg_7O_8 Biscubane-Like Cores: Organometallic Precursors for Low-Temperature Formation of MgO Nanoparticles with Variable Surface Defects”

We appreciate the comments by Dr. Parris¹ who pointed out his earlier work in the Ashby group with methylmagnesium alkoxides.^{2,3} He is correct that Ashby and co-workers did not propose the heptameric (MeMgO^iPr)₇ cluster. The possibility of heptameric or even larger aggregates of RMgOR' compounds in solutions was suggested by Hitchcock et al.⁴ From the ¹H NMR spectrum, Ashby et al. were able to exclude the presence of a heptameric cluster

as suggested by Hitchcock et al., but the structure of the species present remained unknown.² In our previous work⁵ we were able to isolate and structurally characterize the biscubane $\text{Me}_6\text{Mg}_7(\text{O}^i\text{Pr})_8$, which fills a gap of knowledge, but its mechanism of formation is hitherto unknown. Thus, we agree with Dr. Parris that further investigations are needed. In line with that, we thank Dr. Parris for providing the IR spectra of MeMgOPr and MeMgOiPr and their respective decomposition products, which could be helpful to determine the mechanism for the formation of biscubanes in the near future.

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