

Heterogeneous Imine Metathesis Facilitated by Surface Organometallic Fragments (SOMF) for Group 4 Imido Complexes

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Well-defined single-site surface species $[(\equiv\text{Si}-\text{O})-\text{Hf}(\text{NMe}_2)_3]$ generates $[(\equiv\text{Si}-\text{O}-\text{Hf}(\text{=NMe})\text{NMe}_2)]$ that displays a methylimido fragment after 24 hr heating under high vacuum (10⁻⁵ mbar). Both surface species were characterized by FT-IR spectroscopy, elemental analysis, ¹H-¹³C HETCOR and DNP. Treatment by minute amount $[(\equiv\text{Si}-\text{O}-\text{Hf}(\text{=NMe})\text{NMe}_2)]$ of two different imine substrates (imine metathesis) led to rapid imine exchange compared to its Ti and Zr peers catalyst.

Biography:

Maha A Aljuhani A Ph. D student at KAUST. Research interests are in Synthesis of nanomaterials, and catalysis.