CVD/ALD Precursors for Iron Oxide Films

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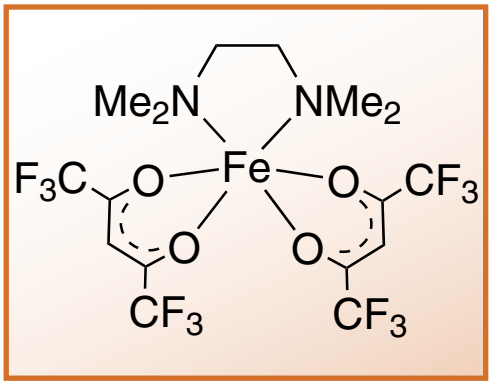
26-1640 **Bis(1,1,1,5,5,5-hexafluoroacetylacetonato)(N,N,N',N'-tetramethylethylenediamine) iron(II), min. 98%** *[73450-43-8]* 100mg 500mg

$C_{16}H_{18}F_{12}FeN_2O_4$; FW:586.15; black xtl.



Technical Notes:

1. Volatile iron complex used in the CVD of iron oxide thin films.
2. Volatile iron complex used in the vapor deposition of β-Fe_2O_3 nanosystems.
3. Volatile iron complex used in the controlled synthesis β-Fe_2O_3 nanosystems functionalized with silver and platinum nanoparticles, enabling an intimate metal-oxide contact and offering promising applications in gas-sensing devices.
4. Volatile iron complex used in the fabrication of β-Fe_2O_3 nanomaterials on titanium substrates, which exhibit promising performance as an anode for lithium batteries.
5. Volatile iron complex used in the preparation of supported ε and β iron oxide by CVD.
6. Volatile iron complex used in the preparation of supported fluorine-doped α-Fe_2O_3 via plasma-enhanced CVD.
7. Volatile iron complex used in the preparation of Fe_2O_3, and subsequent iron oxide ALD functionalization with a Fe-Ti-O overlayer for self-cleaning and antifogging applications.
8. Volatile iron complex used as a versatile CVD precursor for the phase-selective synthesis of β- and ε-Fe_2O_3.
9. Volatile iron complex used as a single source precursor for the one-pot synthesis of fluorine-doped α-Fe_2O_3 by a plasma-assisted strategy.
10. Volatile iron complex used for the plasma-enhanced CVD of fluorine-doped Fe_2O_3 films for photoelectrochemical applications.
11. Combined theoretical/experimental study on the molecular properties and CVD surface behavior of Fe(hfa)$_2$TMEDA and its homologous Co, Cu, and Zn compounds.
12. Phase-selective synthesis of α, β, and ε-Fe_2O_3 from Fe(hfa)$_2$TMEDA for sunlight-driven hydrogen production via photoreforming of aqueous solutions.
13. Theoretical study investigating the molecule-to-material conversion of Fe(hfa)$_2$TMEDA, and its homologous Co, Cu and Zn compounds in CVD applications.

References:

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5. *CrystEngComm*, **2013**, *15*, 1039.
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12. *Adv. Funct. Mater.*, **2014**, *24*, 372.
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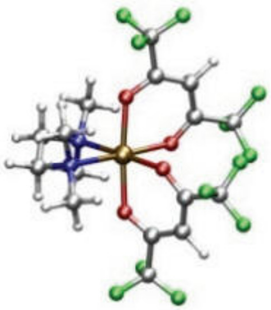
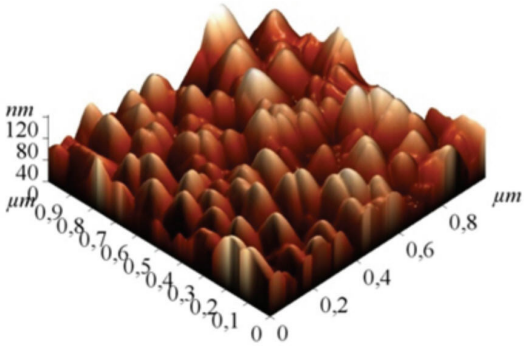
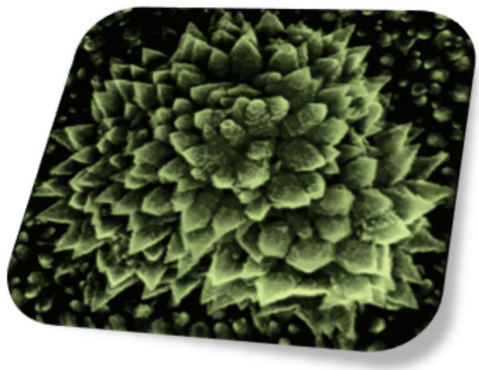


AFM of Fe_2O_3



SEM of Fe_2O_3



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