CVD/ALD Precursors for Iron Oxide Films

26-1640  Bis(1,1,1,5,5,5-hexafluoroacetylacetonato)(N,N,N',N'-tetramethylethylenediamine) iron(II), min. 98%  [73450-43-8]  
C_{16}H_{18}F_{12}FeN_{2}O_{6};  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_{2}O_{3} nanosystems.
3. Volatile iron complex used in the controlled synthesis β-Fe_{2}O_{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_{2}O_{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_{2}O_{3} via plasma-enhanced CVD.
7. Volatile iron complex used in the preparation of Fe_{2}O_{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_{2}O_{3}.
9. Volatile iron complex used as a single source precursor for the one-pot synthesis of fluorine-doped α-Fe_{2}O_{3} by a plasma-assisted strategy.
10. Volatile iron complex used for the plasma-enhanced CVD of fluorine-doped Fe_{2}O_{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_{2}O_{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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