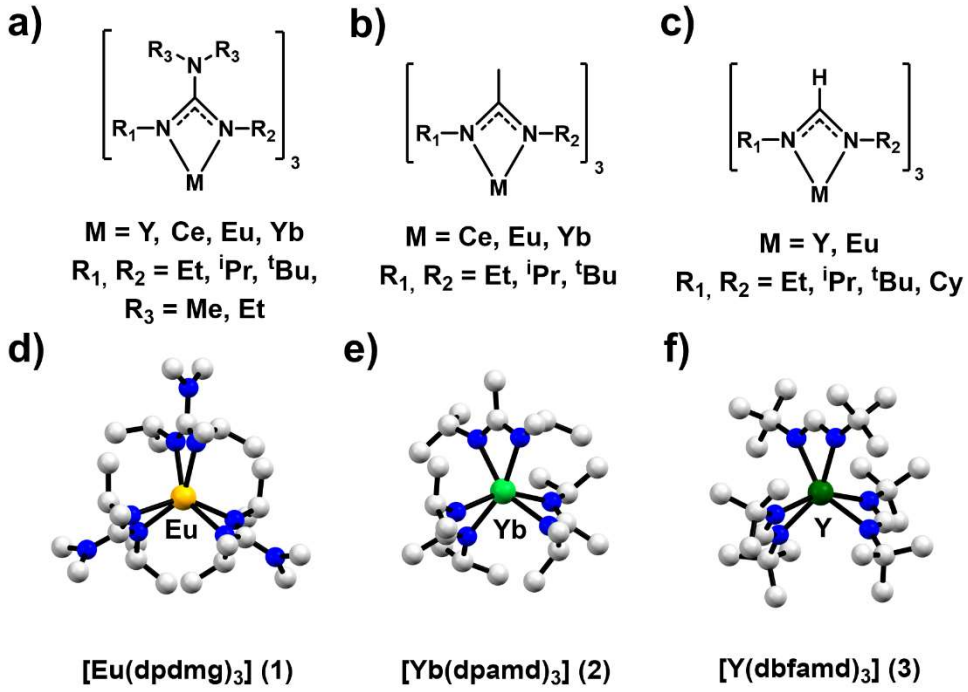

Figure **1**. Overview of homoleptic rare earth metal containing precursors with (a) guanidinate, (b) amidinate and (c) formamidinate ligand moiety.[1-5] (c) Solid state structure of $[Eu(dpdmg)_3]$ (**1**).[1] DFT modelled molecular structures of (d) $[Yb(dpamd)_3]$ (**2**) [2] and (e) $[Y(dbfamd)_3]$ (**3**).[3] In all structures, the N and C atoms are depicted in blue and grey, respectively. The H atoms are omitted for the sake of clarity.

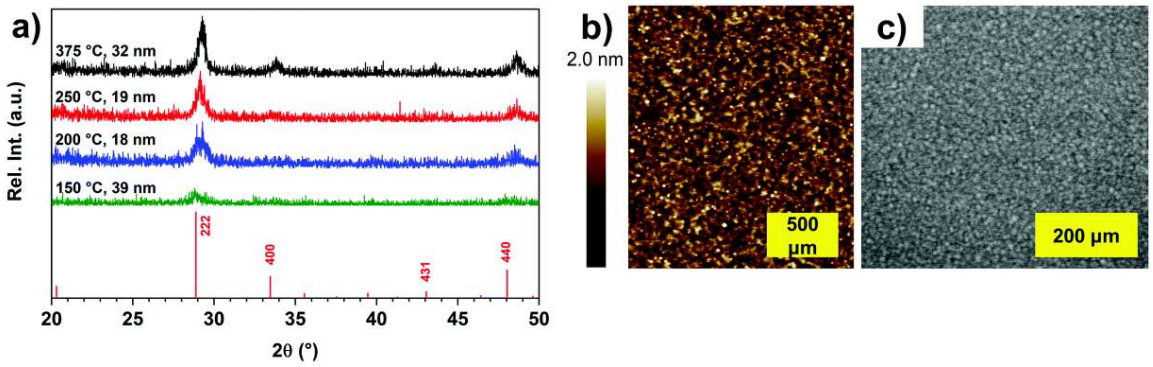

Figure **2**. (a) GIXRD patterns of Y_2O_3 thin films deposited on Si(100) substrates by ALD with $[Y(dbfamd)_3]$ (**3**) and water at different deposition temperatures. The reference pattern of *fcc* Y_2O_3 (ICSD 185295) is depicted in red. (b) AFM and (c) SEM images of Y_2O_3 thin film deposited at a temperature of 300 °C with a thickness of 20 nm.[3]

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[2] Kaur, P. et al., Chem. Eur. J. **2021**, 27, 4913-4926.

[3] Beer, S. M. et al., Dalton Trans., **2021**, 50, 12944–12956.

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