

## Supporting Information

# Atomic Layer Deposition of Y<sub>2</sub>O<sub>3</sub> Films Using Novel Liquid Homoleptic Yttrium Precursor Tris(sec- butylcyclopentadienyl)yttrium [Y(<sup>s</sup>BuCp)<sub>3</sub>] and Water

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## Supplementary Figures

### Long-term thermal stability data of $Y(^sBuCp)_3$ precursor

Figure S1 shows TGA curves recorded during the long-term thermal stability test. The  $Y(^sBuCp)_3$  was heated at 190 °C, which is the temperature at which it vaporizes at 1 Torr, and periodically characterized by TGA and  $^1H$ -NMR. The results show very clean TG curves before and after the sample was heated at 190 °C for 18 weeks.

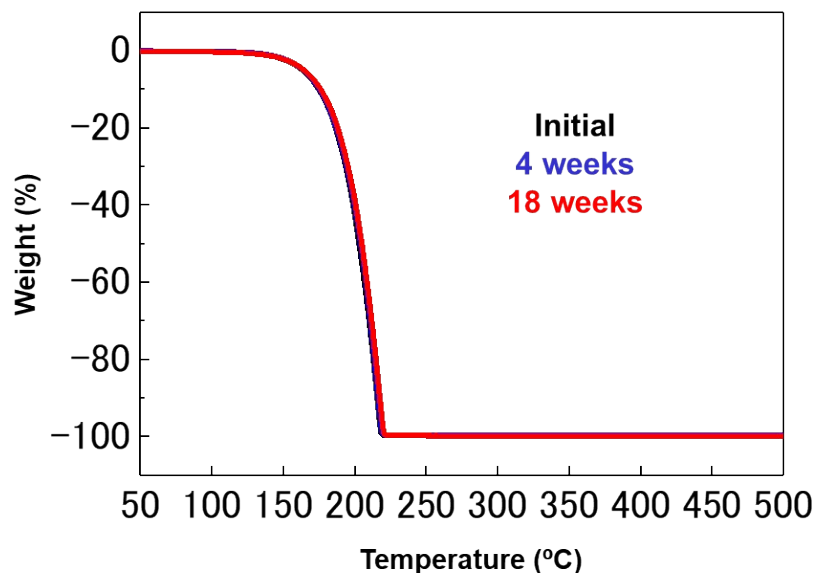


Fig. S1 TGA curves recorded during long-term thermal stability test of  $Y(^sBuCp)_3$  at 190 °C for 18 weeks.

Figure S2 presents  $^1H$ -NMR spectra acquired during the long-term thermal stability test. The spectrum of  $Y(^sBuCp)_3$  did not change before or after it was heated at 190 °C for 18 weeks. Therefore,  $Y(^sBuCp)_3$  was confirmed to exhibit excellent long-term thermal stability for at least 18 weeks.

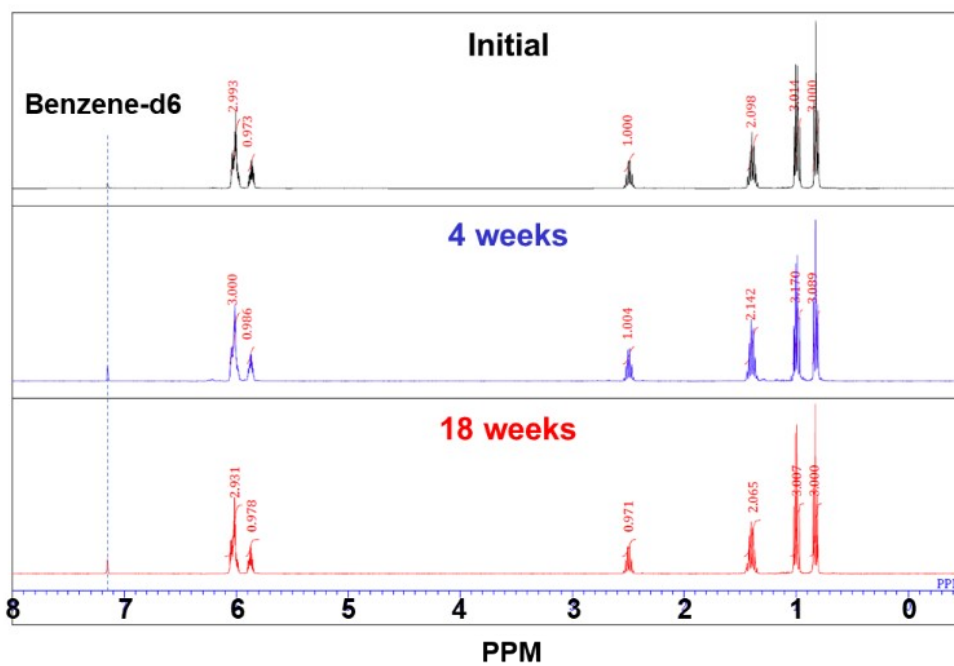


Fig. S2 <sup>1</sup>H-NMR spectra of Y(sBuCp)<sub>3</sub> acquired during long-term thermal stability test at 190 °C for 18 weeks.