

Supporting information

Eggshell-type catalysts by atomic layer deposition: distribution of zinc oxide within mesoporous alumina spheres

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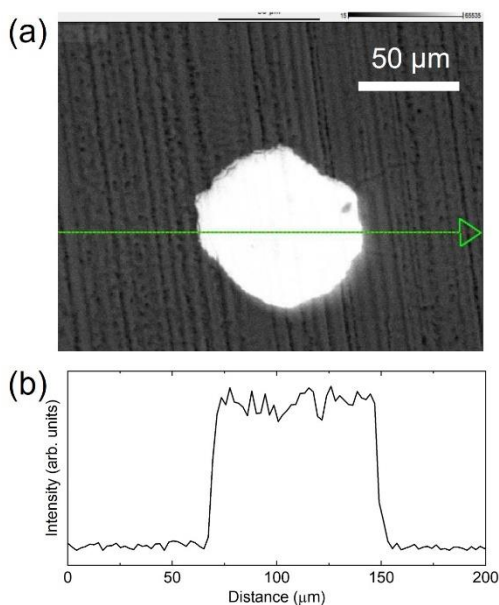


Figure 1. SEM-EDS results: (a) backscattered electron image of mesoporous alumina (particle size 0.1 mm) modified with the $\text{Zn}(\text{acac})_2$ (the location of EDS line scan marked in green). (b) EDS line scans showing the intensity of zinc in alumina (dose used: $0.95 \text{ mmol}_{\text{reactant}}/\text{g}_{\text{support}}$).

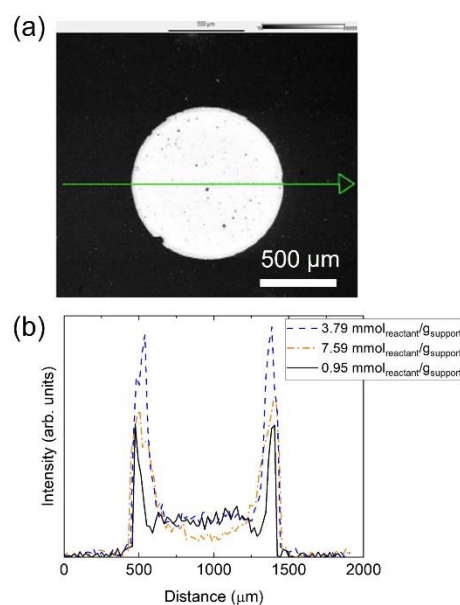


Figure 2. SEM-EDS results of ALD samples prepared by the reaction of varied dose of $\text{Zn}(\text{acac})_2$ with mesoporous alumina sphere (particle size 1.0 mm): (a) backscattered electron image (the location of EDS line scan marked in green). (b) EDS line scans showing the intensity of zinc in alumina.

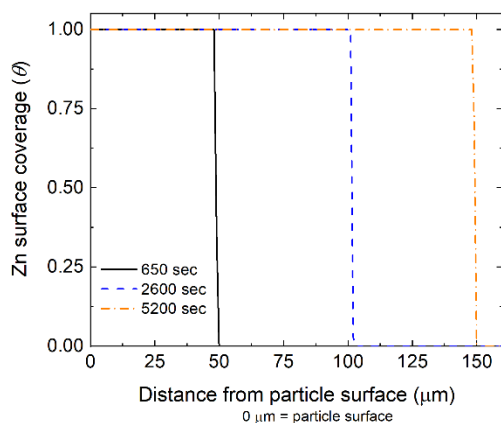


Figure 3. Modelled zinc surface coverage profiles with varying exposure. Exposure (partial pressure x time) having a fixed precursor partial pressure (100 Pa). The model deposition time (exposure) has the corresponding ratios with respect to the experimental dose of $\text{Zn}(\text{acac})_2$ ALD reactant.