

Supplemental

Investigating the trimethylaluminium/water ALD process on mesoporous silica by *in situ* gravimetric monitoring

V. E. Stempel¹, K. Knemeyer¹, R. Naumann d'Alnoncourt^{1,*}, M. Driess^{1,2} and F. Rosowski^{1,3}

¹ BasCat - UniCat BASF JointLab, Technische Universität Berlin, Hardenberstraße 36, 10623, Berlin, Germany

² Institut für Chemie, Technische Universität Berlin, Straße des 17. Juni 135, 10623, Berlin, Germany

³ Process Research and Chemical Engineering, BASF SE, Carl-Bosch-Straße 38, 67056 Ludwigshafen, Germany

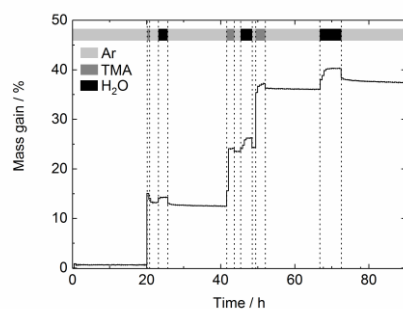


Figure S1. In situ gravimetric monitoring of three cycles TMA/H₂O on SiO₂ particles at 200°C. Dosing procedure pictured in the upper part.

Deleted: 3

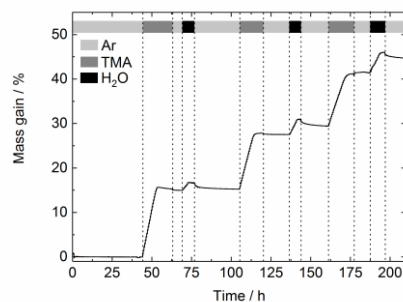


Figure S2. In situ gravimetric monitoring of three cycles TMA/H₂O on SiO₂ particles at 120°C. Dosing procedure pictured in the upper part.

Deleted: 3

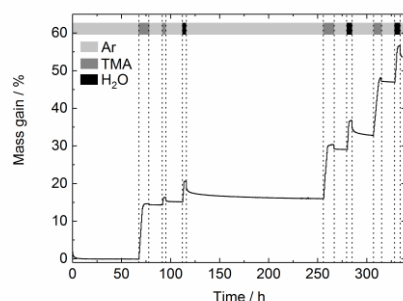


Figure S3. In situ gravimetric monitoring of three cycles TMA/H₂O on SiO₂ particles at 75°C. Dosing procedure pictured in the upper part.

Deleted: 3

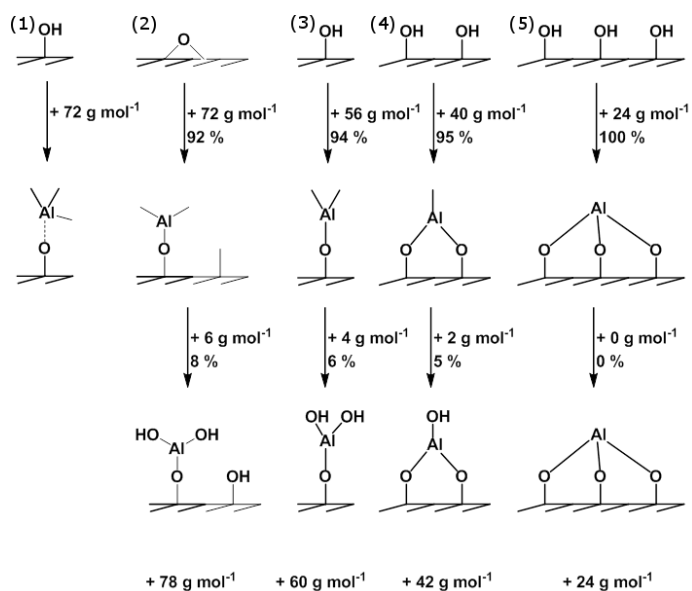


Figure S4. Possible surface reactions during TMA and H₂O half-cycles and the corresponding mass gains per mol (reaction from top to bottom): (1) Associative reaction, (2) dissociative reaction, (3) single ligand exchange, (4) double ligand exchange, and (5) triple ligand exchange.

Deleted: a