Electronic Supplementary Information for

Preparation and microcontact printing of platinum and palladium thin films

Florian M. Wisser,[a] Benjamin Schumm,[a] Andreas Meier,[a] Tom Engel,[b] Julia Grothe,*[a] Guido Kickelbick,[b] and Stefan Kaskel[a,c]

[a] *Dresden University of Technology Address, Bergstrasse 66, 01069 Dresden, Germany. Fax: +49 351 463-37287; Tel: +49 351 463-33632; E-mail: julia.grothe@chemie.tu-dresden.de*
[b] *Saarland University, Inorganic Solid State Chemistry, Am Markt Zeile 3, D-66125 Saarbrücken, Germany*
[c] *Fraunhofer Institute for Material and Beam Technology IWS, Winterbergstrasse 28, 01277 Dresden, Germany. Fax: +49 351 83391-3300; Tel: +49 351 83391-0; E-mail: Stefan.Kaskel@iws.fraunhofer.de*

Supplementary figures

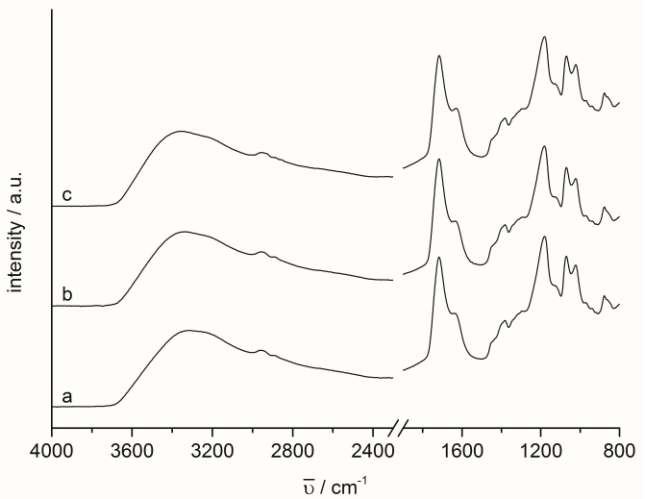

Fig. S1 IR spectra of pure polymeric precursor based on hydrochloric acid (a), with palladium (b) and platinum chloride (c).

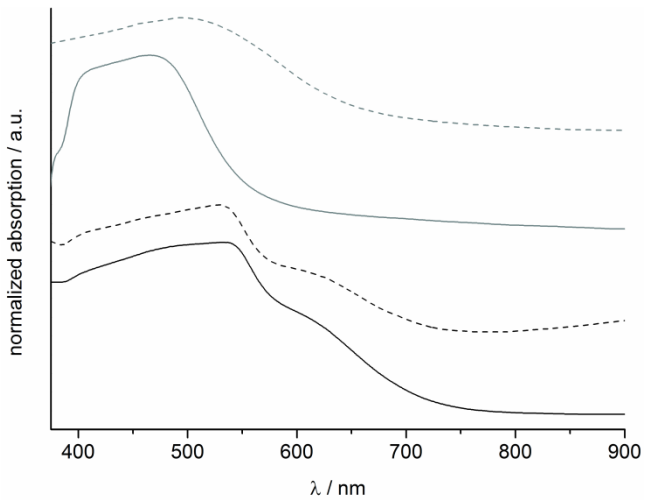

Fig. S2 UV-Vis spectra of Pd based precursors with hydrochloric acid (black) and nitric acid (gray) and the palladium salt in the corresponding acids (dashed lines). The difference in case of the palladium nitrate precursor is mainly due to the fact that the precursor was diluted with the polymeric solution to get a measurable signal.

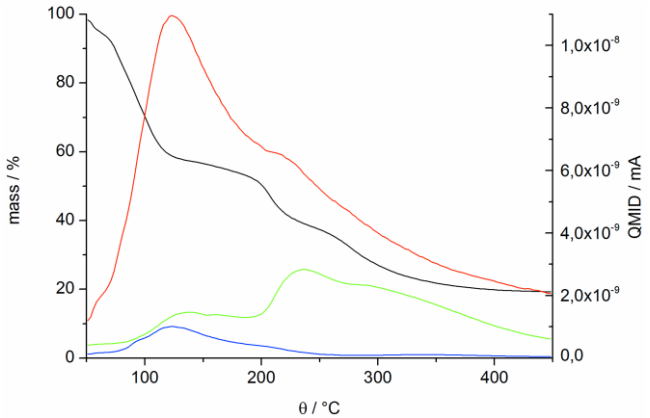

Fig. S3 TG-MS spectra of $Pt(NO_3)_2$-precursor. Quasi Multiple Ion Detection (QMIS) of NO (blue), CO_2 (green) and H_2O (red).

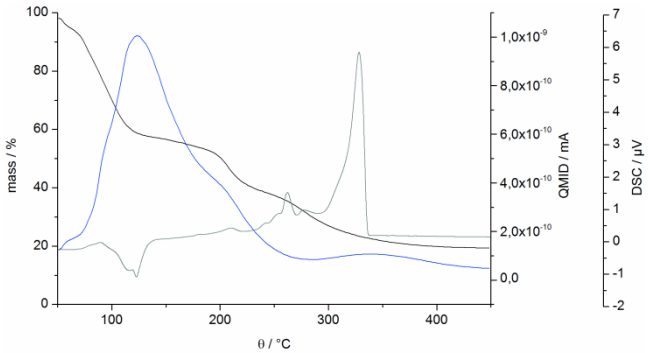

Fig. S4 TG-MS and DSC (gray) spectra of $Pt(NO_3)_2$-precursor showing only the nitrogen monoxide signal of the MS (blue).

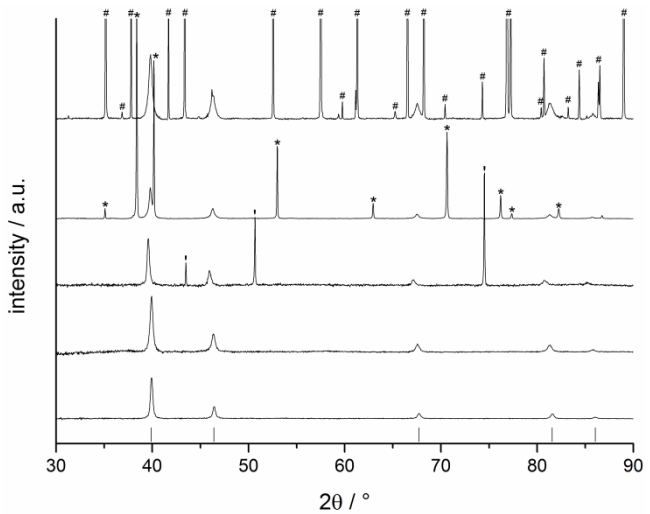

Fig. S5 XRD pattern of platinum thin films from bottom to top on glass, polyimide, steel ('), titanium (*) and aluminium oxide (#). Bragg marker: Pt (ICSD: 01-070-2057).

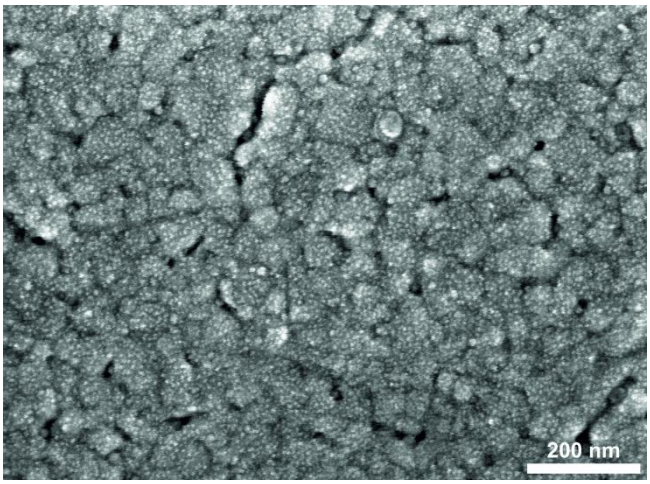

Fig. S6 SEM image of a platinum thin film calcinated at 600°C for 1h.

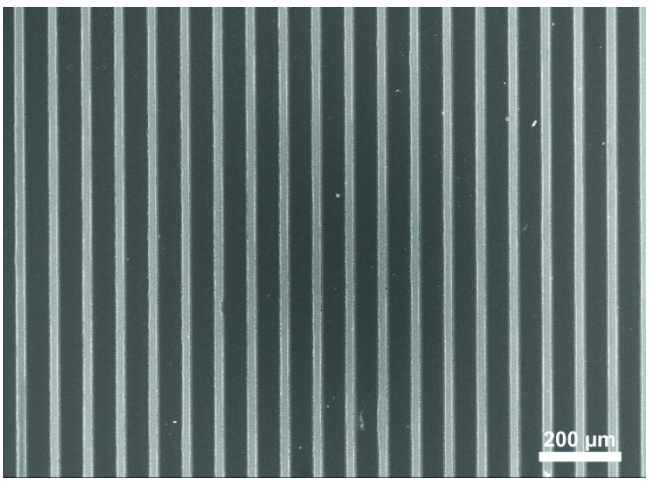

Fig. S7 SEM overview image of the 15 µm platinum line pattern.

Table S1. Viscosities of the different precursor solutions. The values of water and ethylene glycol are in good agreement with the literature.[1, 2]

	H_2O	EG	aq. EG-CA	non-aq. EG-CA	EG-CA (4:1)	EG-CA (8:1)
η / mPa·s	0.886	15.6	16.8	524.2	349.4	88.2

References
1 J. Kestin, M. Sokolov and W. A. Wakeham, *J. Phys. Chem. Ref. Data*, 1978, **7,** 941-948.
2 N. G. Tsierkezos and I. E. Molinou, *J. Chem. Eng. Data*, 1998, **43,** 989-993.