Electronic Supplementary Information (ESI) to:

Tuning the surface electronic structure of a $Pt_3Ti(111)$ electro catalyst

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LEED measurements

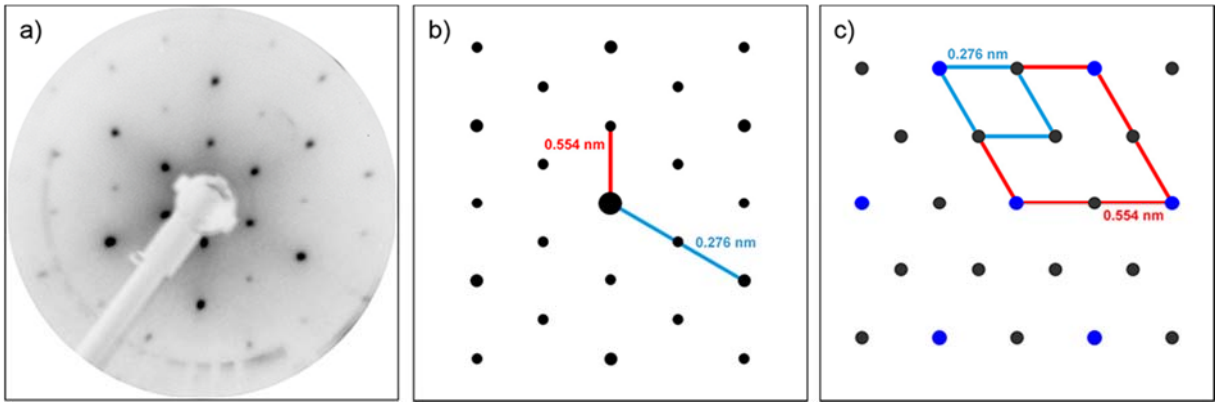

Fig. S1 (a) LEED image (180 eV) of the $Pt_3Ti(111)$ surface showing a Ti induced p(2x2) superstructure on the hexagonal substrate. The p(1x1) structure is related to the Pt sublattice. (b) k-space model of the LEED image with the lattice vectors of the superstructure and the sublattice. (c) real space model of the LEED image with both unit cells.

STM measurements

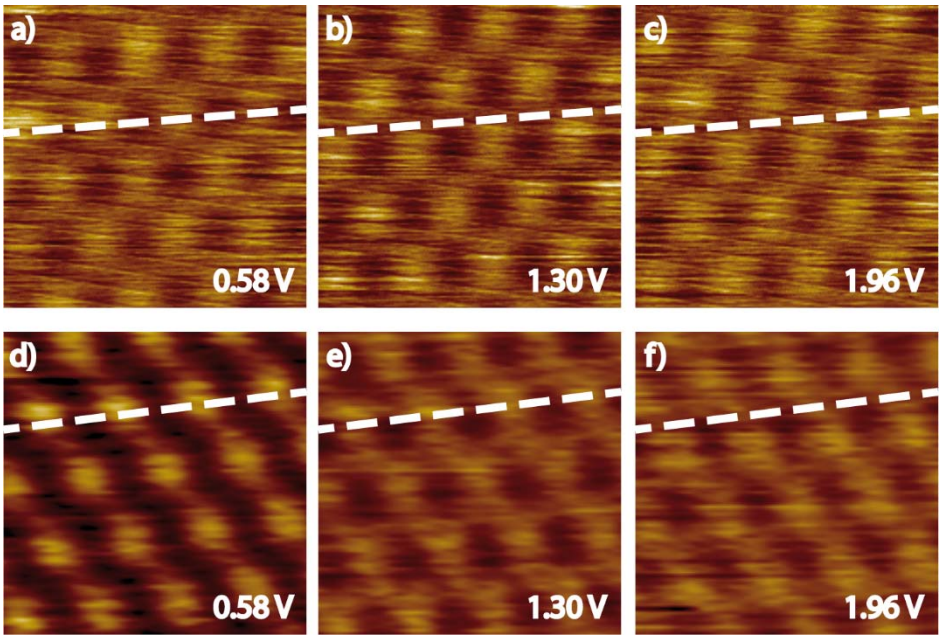

Fig. S2 STM measurements of the surface of S1 (a)-(c) and S2 (d)-(f) obtained in the multiple voltage mode. For S1 the change in the appearing shift takes place between 0.58 V and 1.30 V, while for S2 the shift takes place between 1.30 V and 1.96 V (set-point values: (a) 0.58 V, 7.9 nA; (b) 1.30 V, 7.9 nA; (c) 1.96 V, 7.9 nA; (d) 0.58 V, 0.6 nA; (e) 1.30 V, 0.6 nA; (f) 1.96 V, 0.6 nA).

Sputtering Yield

	He^+	Ne^+	Ar^+	Kr^+	Xe^+
Pt	**0.035**	**0.70**	**1.56**	**2.11**	**2.23**
Ti	**0.08**	**0.45**	**0.58**	**0.53**	**0.50**

Tab. S1 Sputtering Yield (atoms/incident ion) of the single metal components for different noble gas ions at 0.6 keV.[1,2]

References

1 D. Rosenberg, G. K. Wehner, *J. Appl. Phys*., 1962, **33**, 1842-1845.

2 N. Laegreid, G. K. Wehner, *J. Appl. Phys.*, 1961, **32**, 365-369.