Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Probing the surface fine structure through electrochemical oscillations

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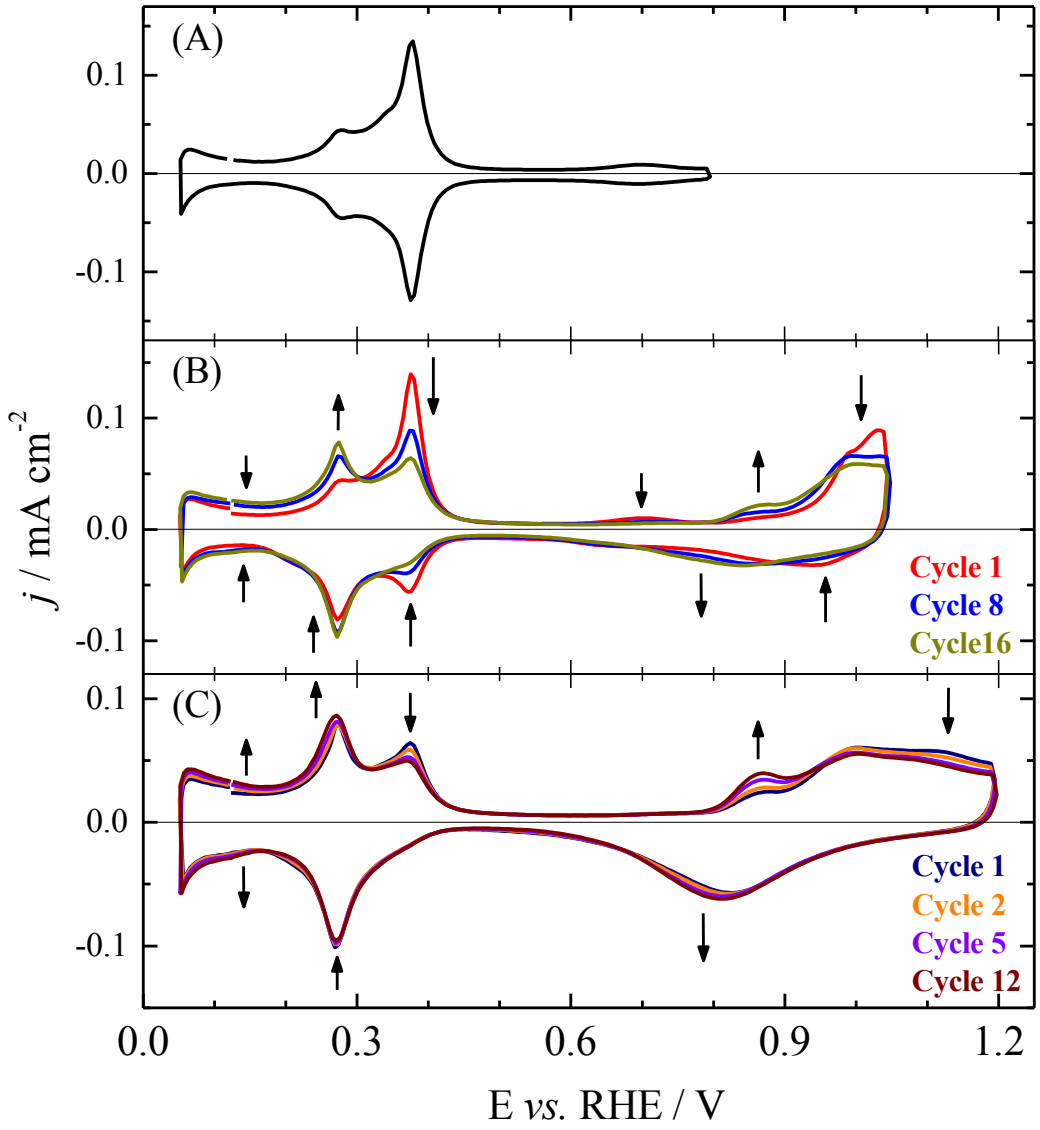

Figure S1: CVs at 50mV s^{-1} of Pt(100) surfaces. (A) well-ordered surface profiles; (B) defect processes by cycling up to 1.05V; (C) second part of the defect processes up to 1.20V. Electrolyte: 0.5 M H_2SO_4aqueous solution.

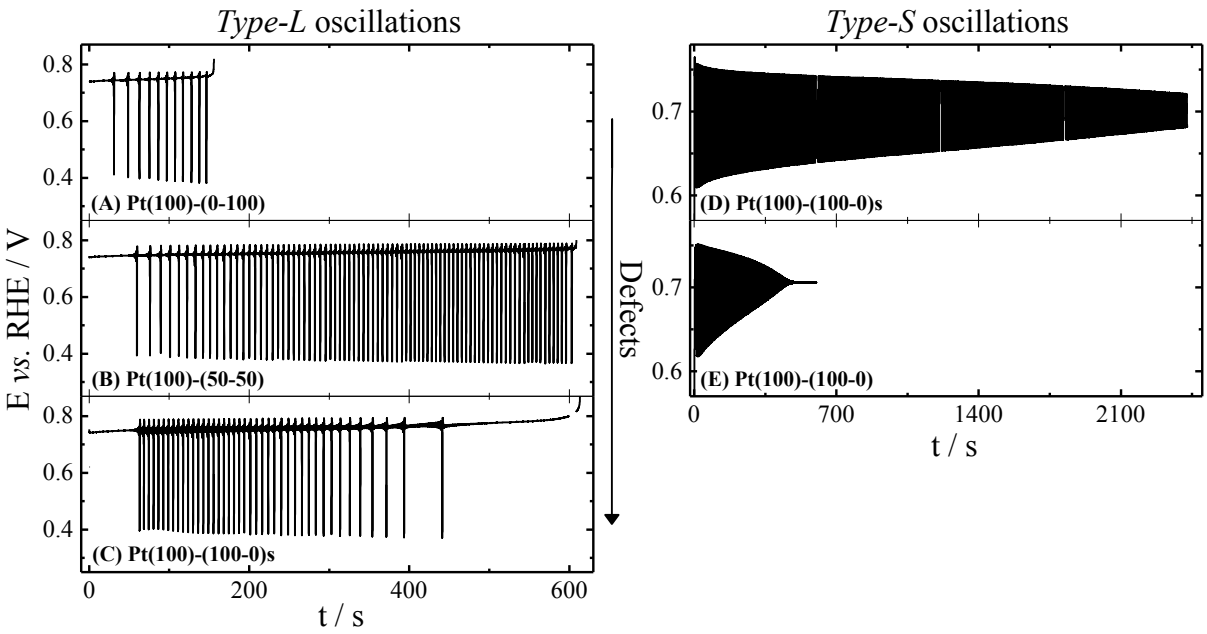

Figure S2: Potential oscillation during galvanostaticmeasurements of 0.2M MeOHand 0.5M H_2SO_4 on (A) Pt(100)-(0-100), (B) Pt(100)-(50-50), (C) and (D)Pt(100)-(100-0)s, and Pt(100)-(100-0).

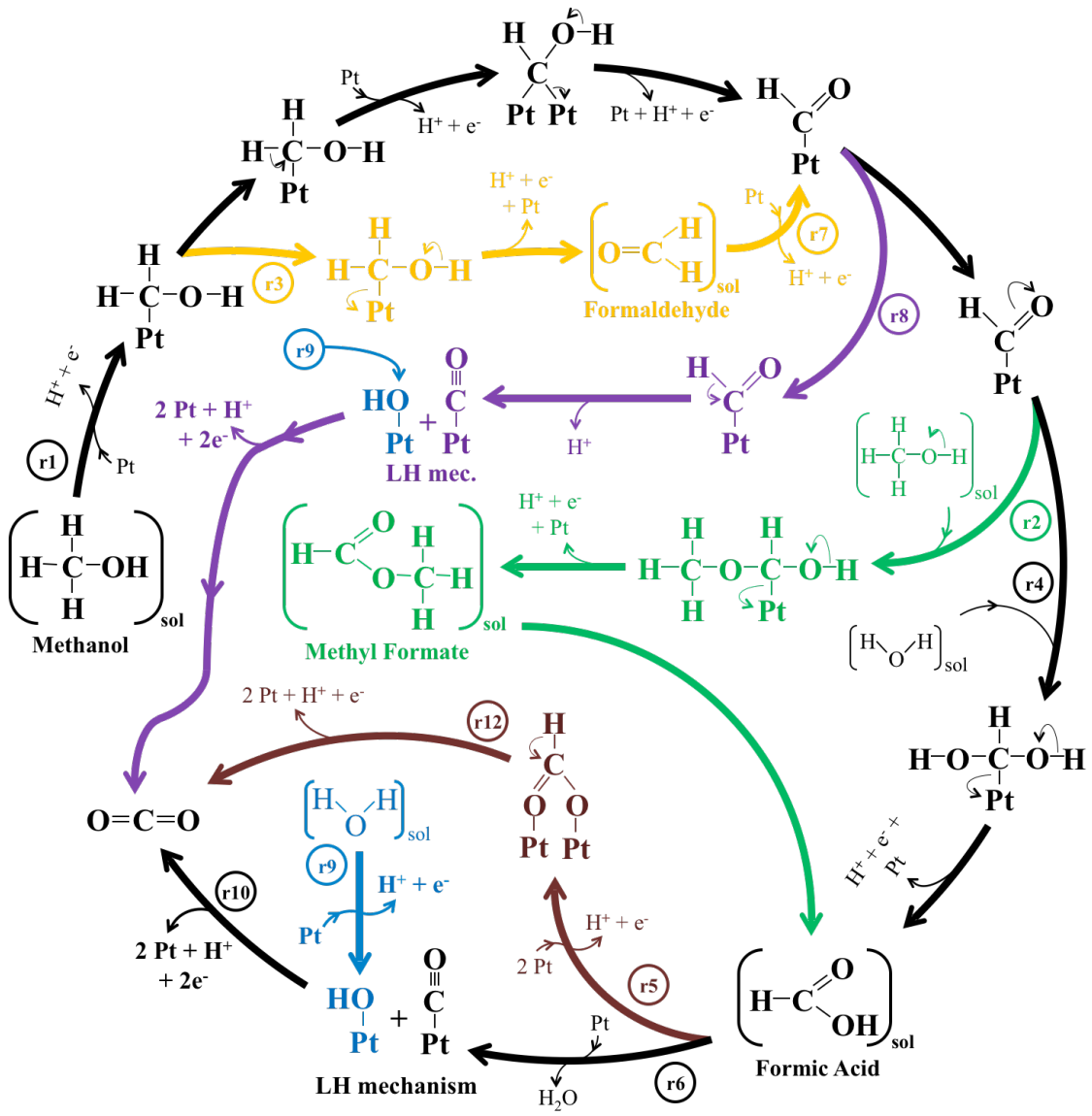

Figure S3: Reactions scheme of the main steps along the electro-oxidation of methanol on platinum in acidic media.