Electronic Supplementary Material (ESI) for Dalton Transactions.

Electronic Supporting Information

Thermodynamics for Complex Formation between Palladium(II) and Oxalate

Radomír Pilný[a,d], Přemysl Lubal[a,b*] and Lars I. Elding[c*]

a *Department of Chemistry, Faculty of Science, Masaryk University, Kotlářská 2, CZ-611 37 Brno, Czech Republic. E-mail: lubal@chemi.muni.cz*

b *Central European Institute of Technology (CEITEC), Masaryk University, Kamenice 5, CZ-625 00 Brno, Czech Republic*

c *Department of Chemistry, Lund University, P.O.Box 124, SE-221 00 Lund, Sweden. E-mail: lars_ivar.elding@chem.lu.se*

d *Department of Laboratory Medicine, Masaryk Memorial Cancer Institute, Žlutý kopec 7, CZ-656 53 Brno, Czech Republic*

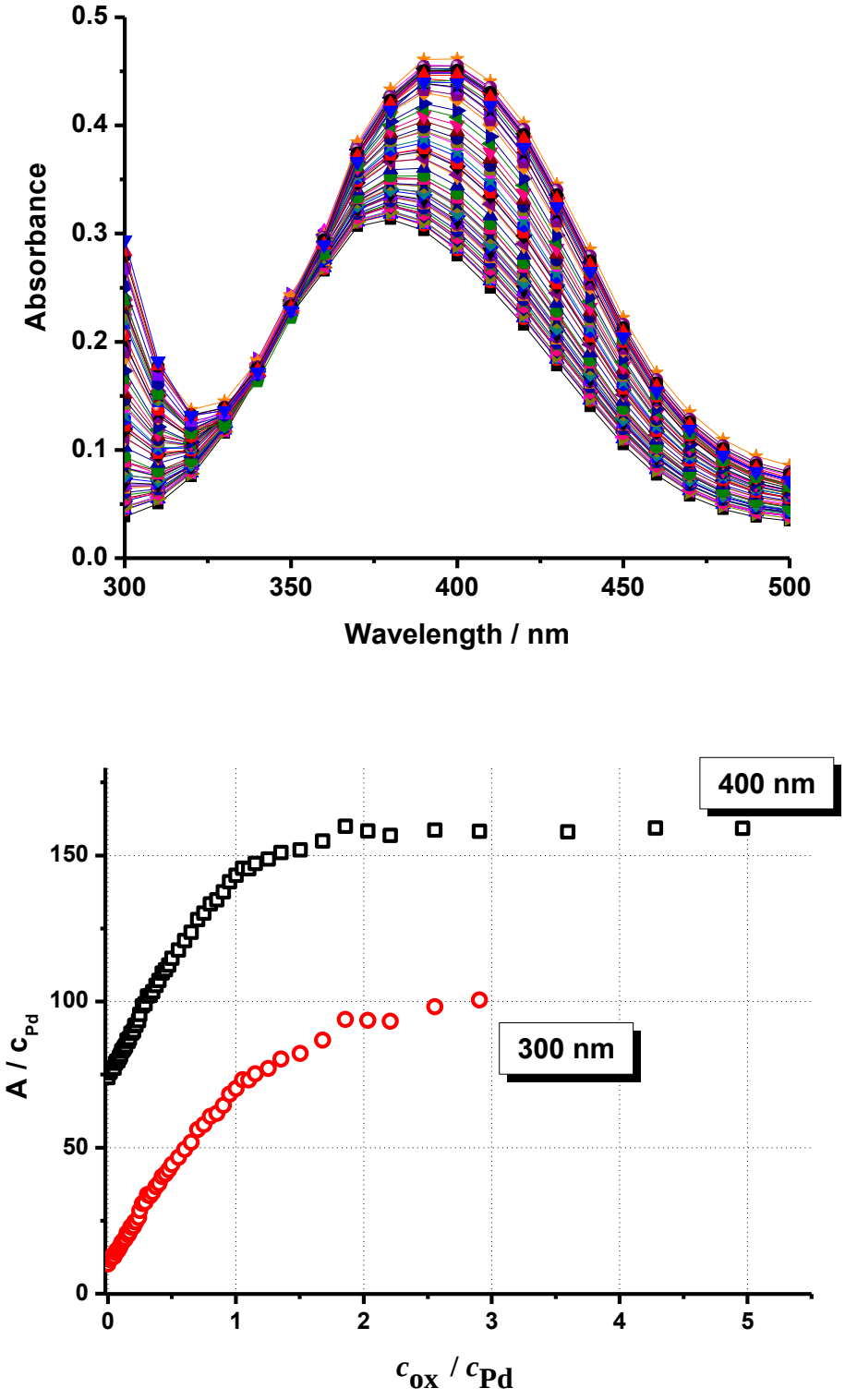

Fig. S1: Experimental data for $[Pd^{2+}]_{tot} \approx (1.3\text{-}3.8)\times10^{-3}$ mol.dm^{-3}, $[H_2Ox]_{tot} \approx (0\text{-}65)\times10^{-3}$ mol.dm^{-3}, $[H^+]_{initial} = 1.00$ mol.dm^{-3}, and $I = 1.00$ mol.dm^{-3} (Na,H)ClO_4.

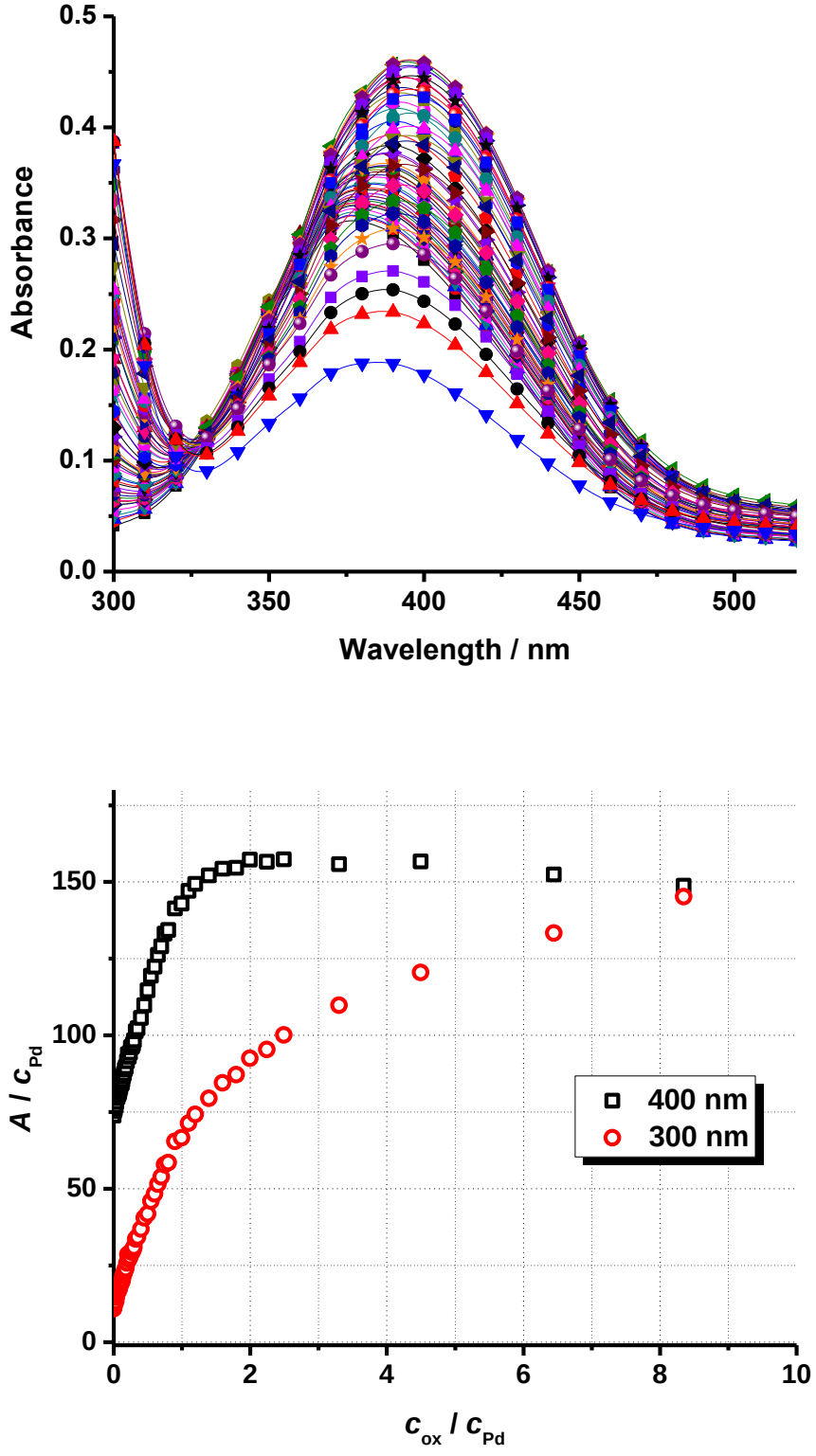

Fig. S2: Experimental data for $[Pd^{2+}]_{tot} \approx (1.3\text{-}4)\times10^{-3}$ mol.dm^{-3}, $[H_2Ox]_{tot} \approx (0\text{-}60)\times10^{-3}$ mol.dm^{-3}, $[H^+]_{initial} = 0.100$ mol.dm^{-3}, and $I = 1.00$ mol.dm^{-3} (Na,H)ClO$_4$.

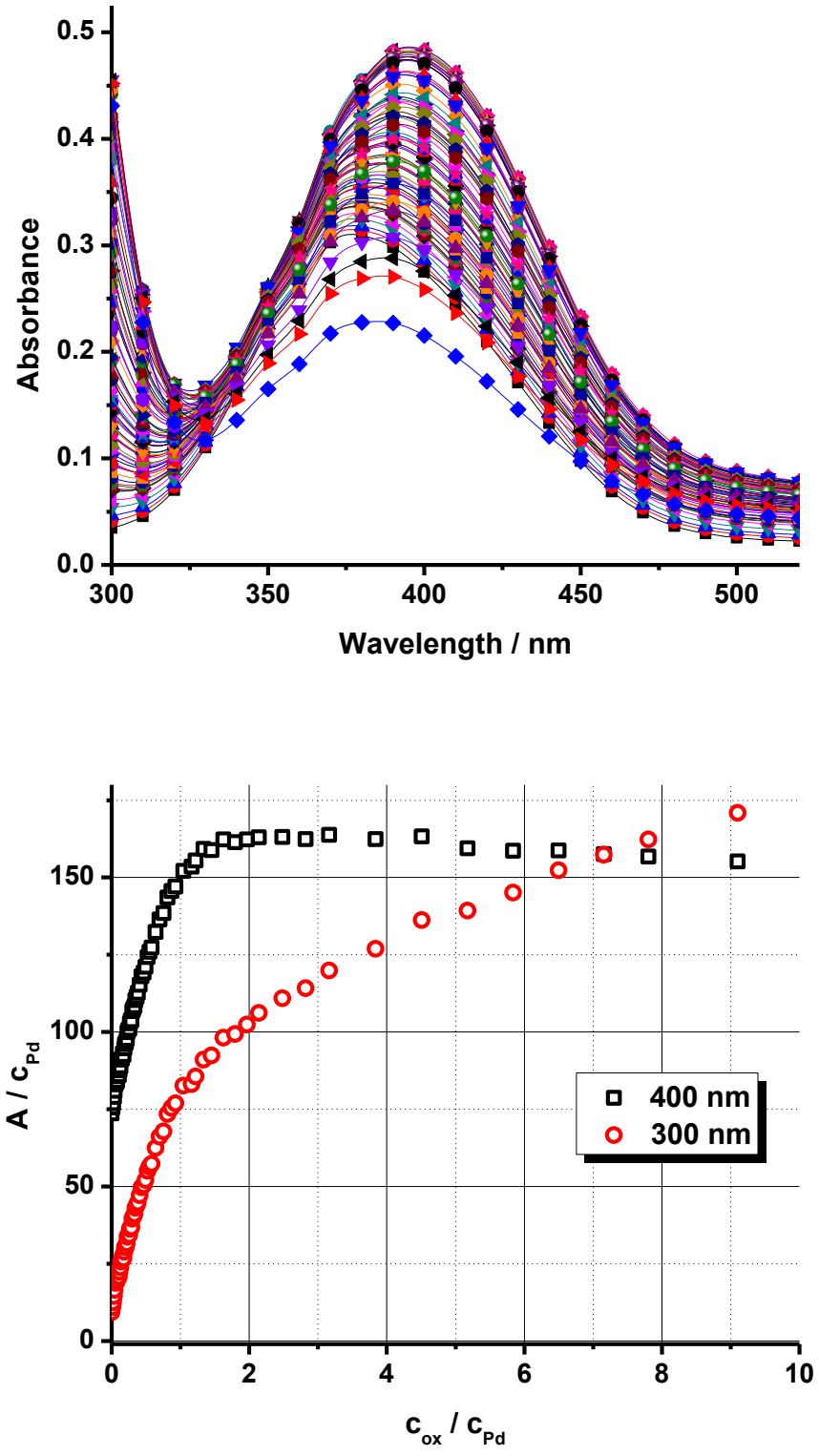

Fig. S3: Experimental data for $[Pd^{2+}]_{tot} \approx (1.6\text{-}4)\times10^{-3}$ mol.dm^{-3}, $[H_2Ox]_{tot} \approx (0\text{-}56)\times10^{-3}$ mol.dm^{-3}, $[H^+]_{initial} = 0.0100$ mol.dm^{-3}, and $I = 1.00$ mol.dm^{-3} (Na,H)ClO_4.

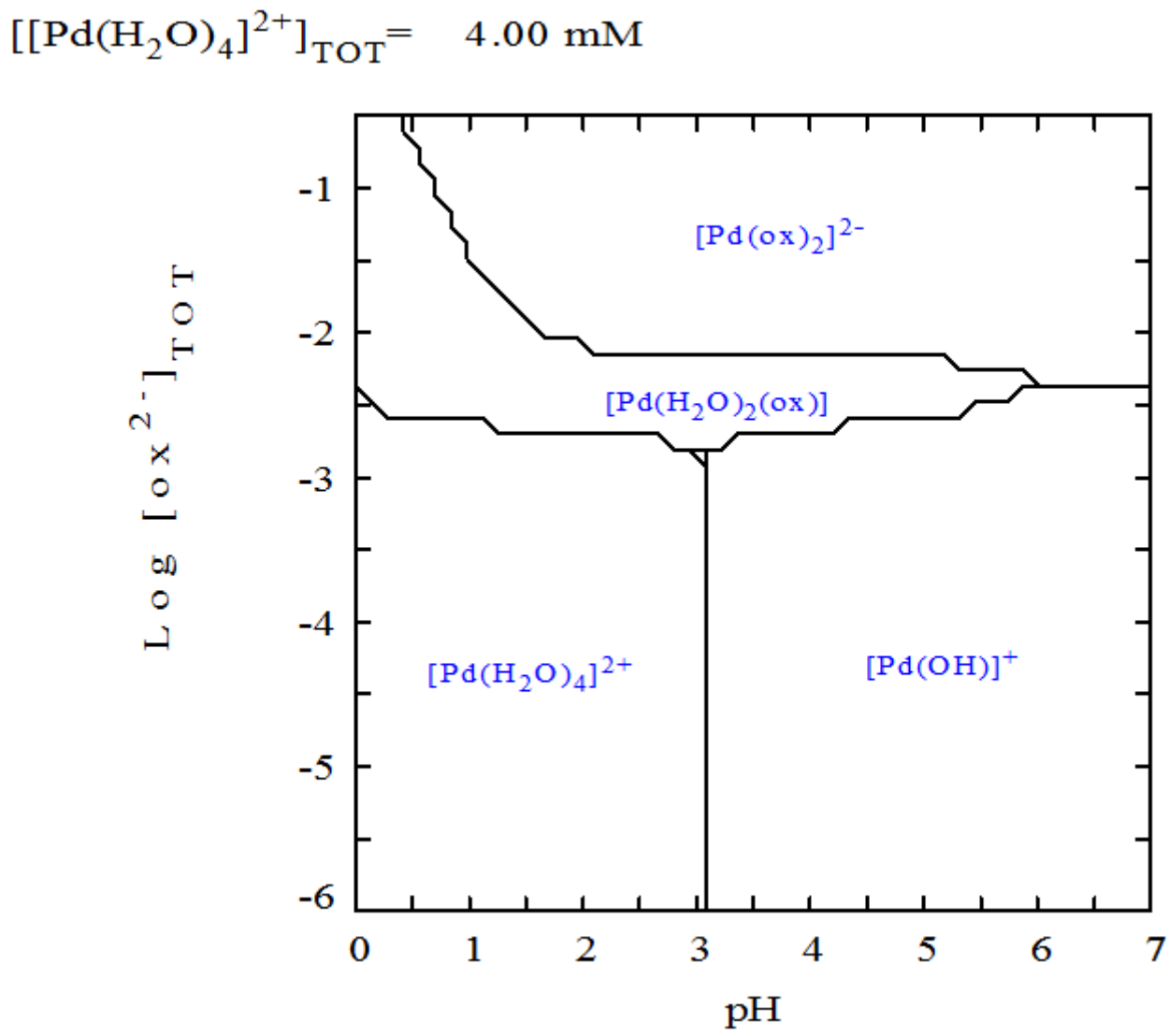

Fig. S4: Calculated predominance diagram for the palladium(II)-oxalato system under the experimental conditions employed: T = 298.2 K, I = 1.00 mol.dm^{-3} (Na,H)ClO$_4$), using the equilibrium constants determined here and given in Table 1 or taken from literature: pK_h for $[Pd(H_2O)_4]^{2+}$ ≈ 3.0,[35] log $K_{p,1}$ = 3.586 for ox^{2-} and log $K_{p,2}$ = 1.084 for Hox^-. Total concentration of $[Pd(H_2O)_4]^{2+}$ is 4.00 mmol.dm^{-3}.