Supplementary Materials for

Multi-walled carbon nanotubes supported Pd(II) complexes: A supramolecular approach towards single-ion oxygen reduction reaction catalysts

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Figure S1. Species distribution diagram for the $H_{3}L$ ligand in aqueous solution. $[H_{3}L] = 1$ mM.



Figure S2. Sample Still CVs in KOH 0.1 M solution saturated with N₂(blue line)/O₂(red line) for sample 3.



Figure S3. Graphical standardized definition of E_{on} as employed in this study. E_{on} value is determined from the polarization curve using its first derivative as the intersection between the derivative inflection point and its baseline. Displayed polarization curve is the one for sample 3.



Figure S4. Acid (left, red, pH 1.1, to violet, pH 6.3) and alkaline (right, red, pH 7.3, to violet, pH 12.3) branches of Pd(II):H₃L UV spectra after 4 days equilibration time.



Figure S5. KL regression plot obtained for data in Figure 6 at -0.5 V vs Ag/AgCl/sat. KCl.



Figure S6. 1.5 hours stability test results; a) time evolution of ring and disk current densities and number of exchanged electrons per O_2 molecule; b) time evolution of water and hydrogen peroxide yields (as percentage).



Figure S7. Components of the main Pd peak evaluated in the catalyst as prepared (left) and after use (right). Colour code: green: Pd(II) component; red: Pd(0) component; blue: global fit of experimental data; black: experimental data.