Supplementary Materials

Surface characterization of modified electrodes based on 4-(azulen-1-yl)-2,6-bis((E)-2-(thiophen-2-yl)vinyl)pyridine

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Basic properties for **M** and characterization by elemental analysis, UV-Vis, IR, ^{1}H NMR, ^{13}C-NMR, MS

Blue crystals, m.p. 144 C; [Found: C, 76.91; H, 4.56; N, 3.31; C 27 H19 NS2 requiers C, 76.92; H, 4.54; N, 3.32%]; R f (20% DCM/C5 -C6) 0.34; Uv-Vis (MeOH) 699sh (1.71), 631sh (2.27), 580 (2.38), 374 (4.44), 324 (4.63), 282 (4.50), 225 (4.32), 216 (4.34) nm; νmax (neat) 3101, 3060, 2954, 2918, 2851, 2158, 1988, 1708, 1622, 1588s, 1575, 1523, 1392, 1355, 1289, 1239, 1176, 956, 882, 855, 838, 815, 768, 743, 681, 667, 573, 560, 489 cm^{-1} ; δH (500 MHz $CDCl_3$) 8.66 (1 H, d, J 9.8 Hz, 8′-H), 8.42 (1 H, d, J 9.4 Hz, 4′-H), 8.10 (1 H, d, J 3.9 Hz, 2′-H), 7.97 (2 H, d, J = 15.7 Hz, 2‴-H), 7.69 (1 H, t, J 9.8 Hz, 6′-H), 7.48 (1 H, d, J 3.9 Hz, 3′-H), 7.42 (2 H, s, 3-H, 5-H), 7.30 (1 H, t, J 9.9 Hz, 7′-H), 7.27 (2 H, d, J 5.0 Hz, 5′′-H), 7.26 (1 H, t, J 9.4 Hz, 5′-H), 7.24 (2 H, d, J 3.5 Hz, 3′′-H), 7.11 (2 H, d, J 15.6 Hz, 1‴-H), 7.06 (2 H, dd, ^{3}J = 3.6, 5.0 Hz, 4′′-H); δC (125 MHz $CDCl_3$) 155.0 (C2, C6), 146.2 (C4), 142.6 (C3a′), 142.3 (C2′′), 138.7 (C6′), 137.8 (C4′), 137.0 (C2′), 135.9 (C8a′), 135.3 (C8′), 127.8 (C3′′, C4′′, C5′′, C2‴), 126.0 (C1′), 125.5 (1‴-H), 124.5 (C7′), 124.2 (C5′), 121.2 (C3, C5), 118.1 (C3′); MS-ESI (m/z) 422 [M^{+} +1].

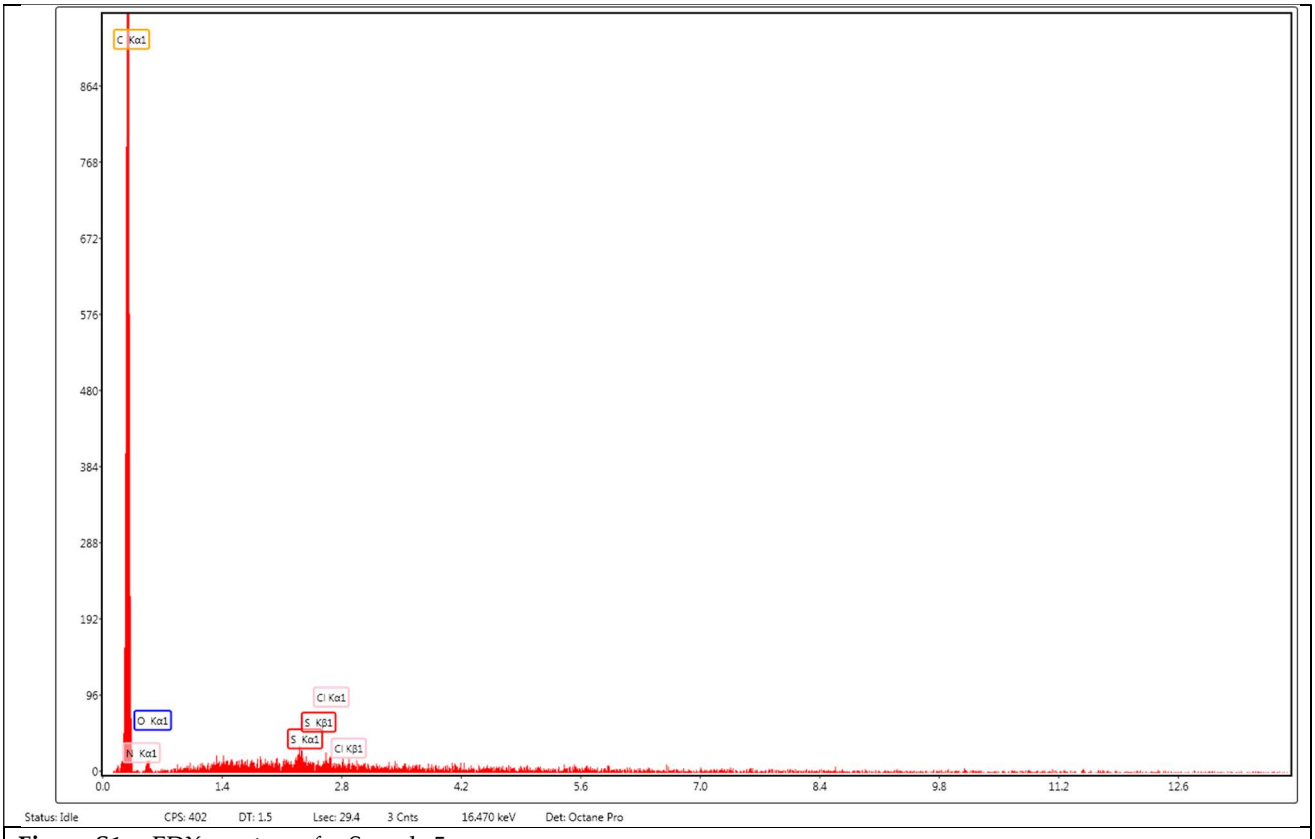
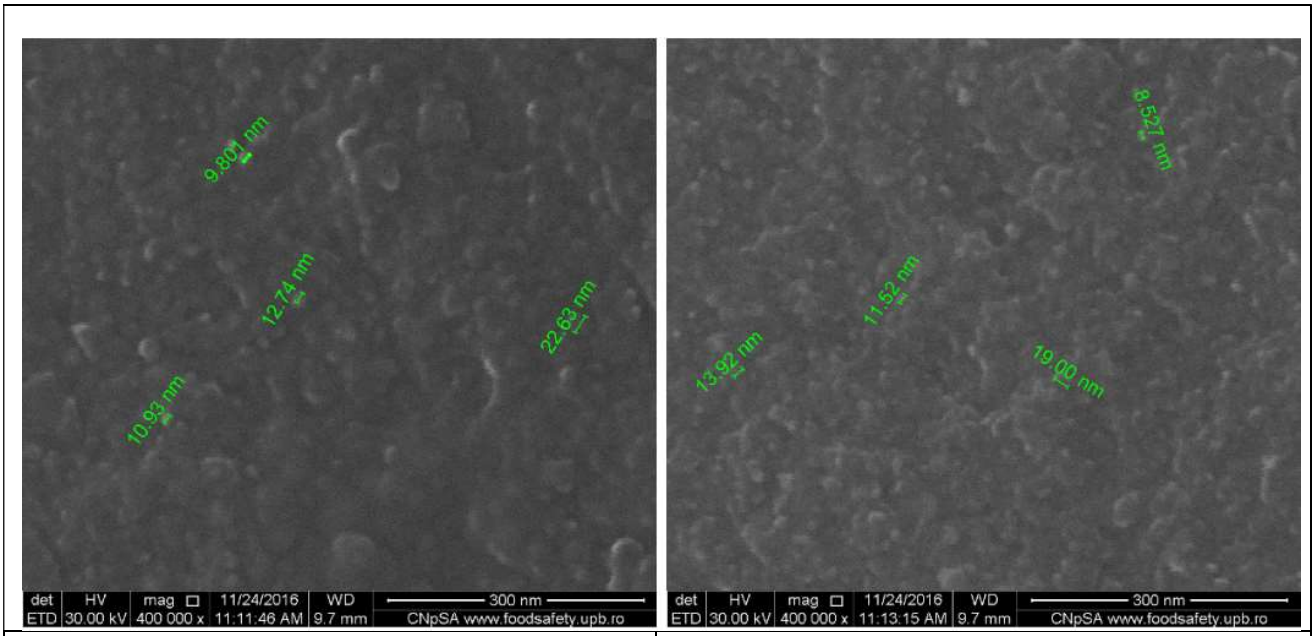


Figure S1 a. EDX spectrum for Sample 5

Figure S1 b. EDX spectrum for Sample 8



a | **b**

Figure S2. SEM image for Sample 3 with nanometric structures of 9.8 nm -22.6 nm (a) and 8.5 -19 nm (b).

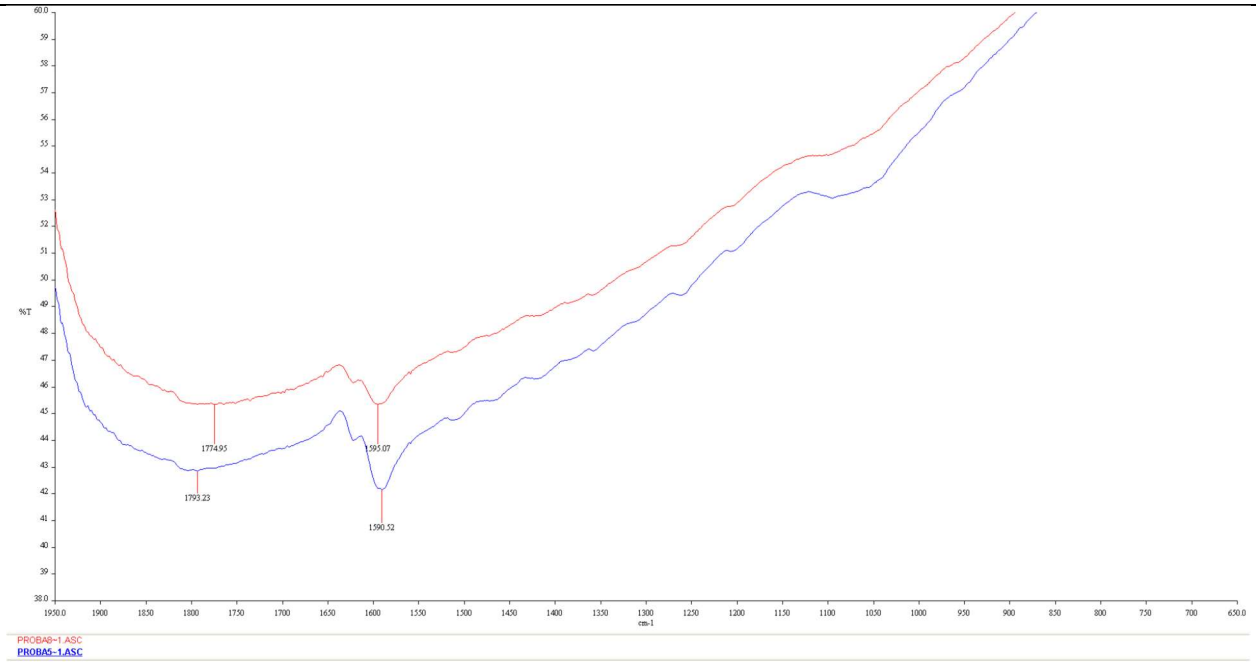


Figure S3. FTIR spectra and specific wave numbers for samples **5 (blue)** and **8 (red).**

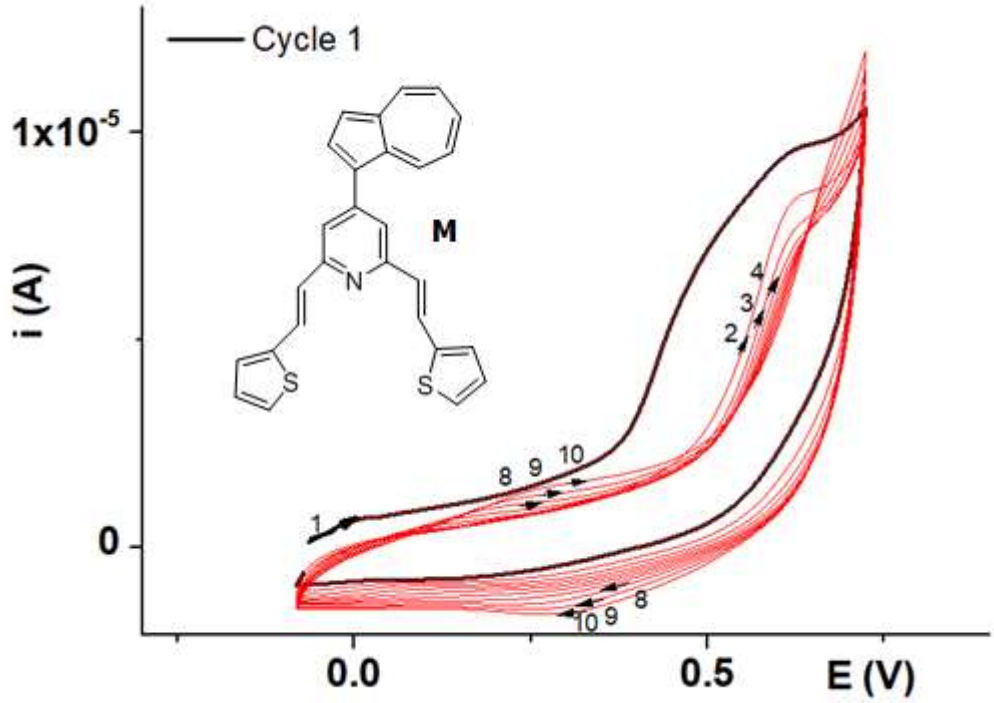


Figure S4. CV curves during the preparation of CMEs by scanning in the potential range of the first anodic peak a1 (short anodic range potential); [**M**] = 0.63 mM.

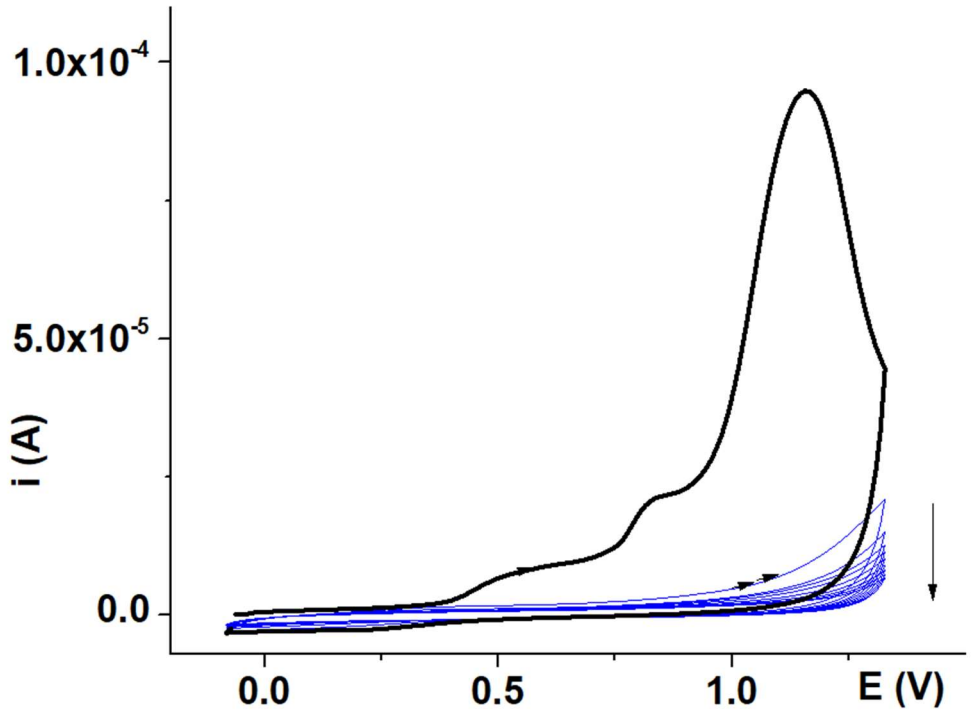


Figure S5. CV curves during the preparation of CMEs by scanning on larger anodic range of potential; [**M**] = 0.63 mM.

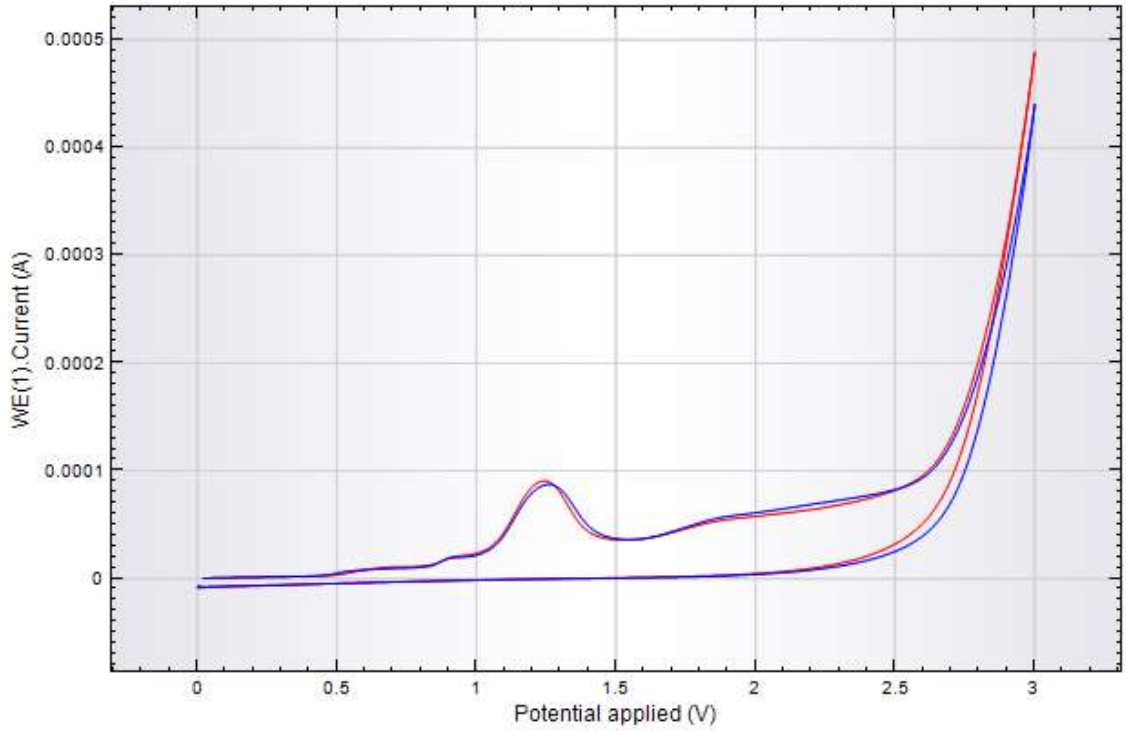


Figure S6. CV curves (0.1 V/s) for [**M**] = 0.63 mM recorded successively on glassy carbon electrode (3 mm diameter).

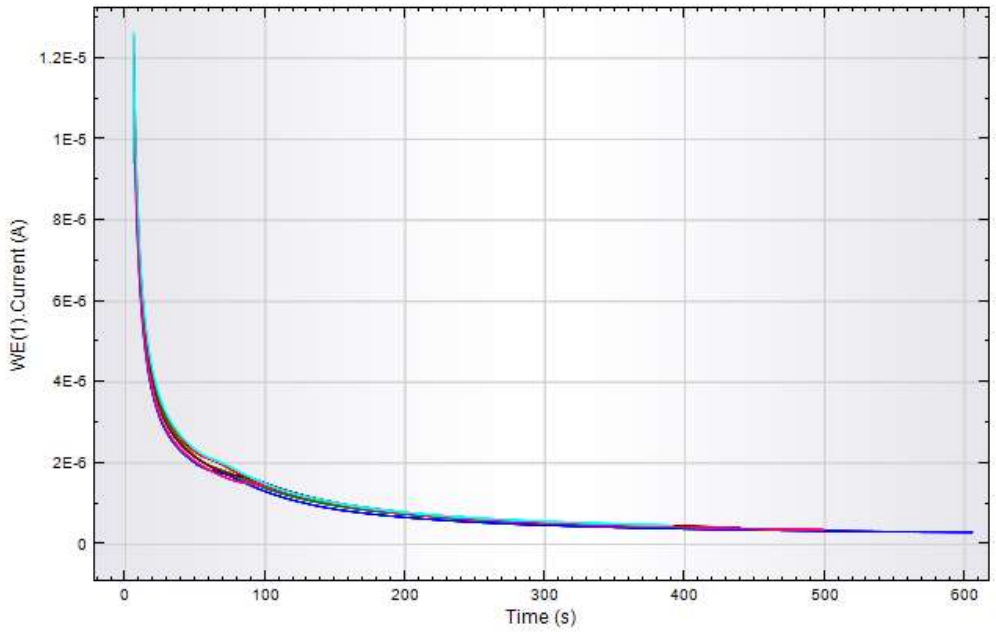


Figure S7. 6 successive chronoamperograms during CPE at 1.2 V (0.5 mC) in solution of [**M**] = 0.63 mM in 0.1 M TBAP, CH_3CN registered in the same day at different moments of preparation.

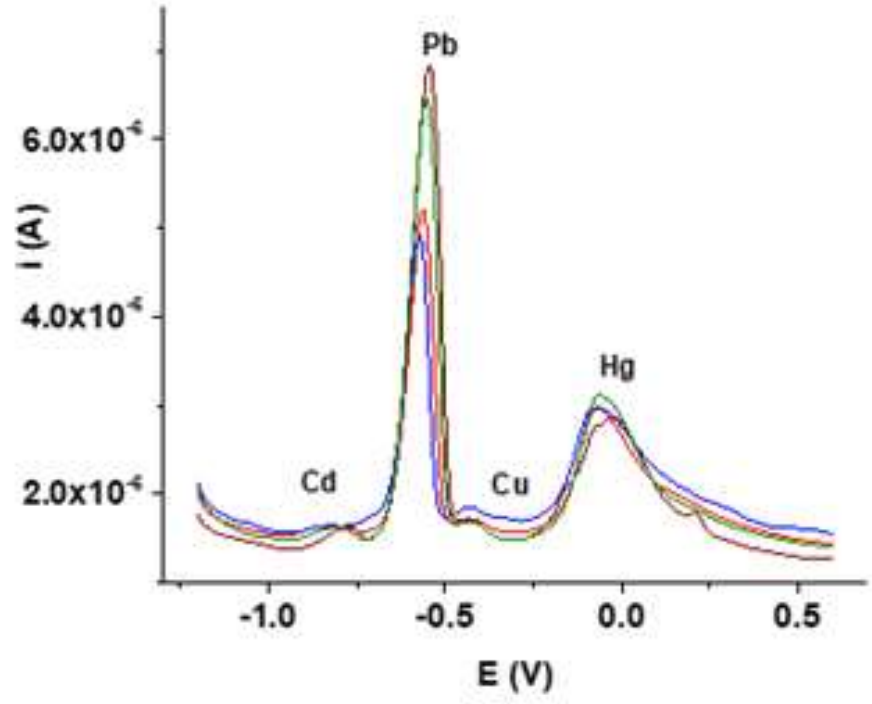


Figure S8. Stripping DPV curves for CME prepared by CPE at 1.2 V (0.5 mC) in a solution of [**M**] = 0.63 mM in 0.1 M TBAP, CH_3CN and introduced in accumulation solutions of different concentrations: 10^{-5} M (blue and red), 10^{-6} M (olive and wine).