Electronic Supplementary Material (ESI) for Nanoscale Advances.

ELECTRONIC SUPPLEMENTARY INFORMATION

Core-shell niobium(V) oxide@molecularly imprinted polythiophene nanoreceptors for transformative, real-time creatinine analysis

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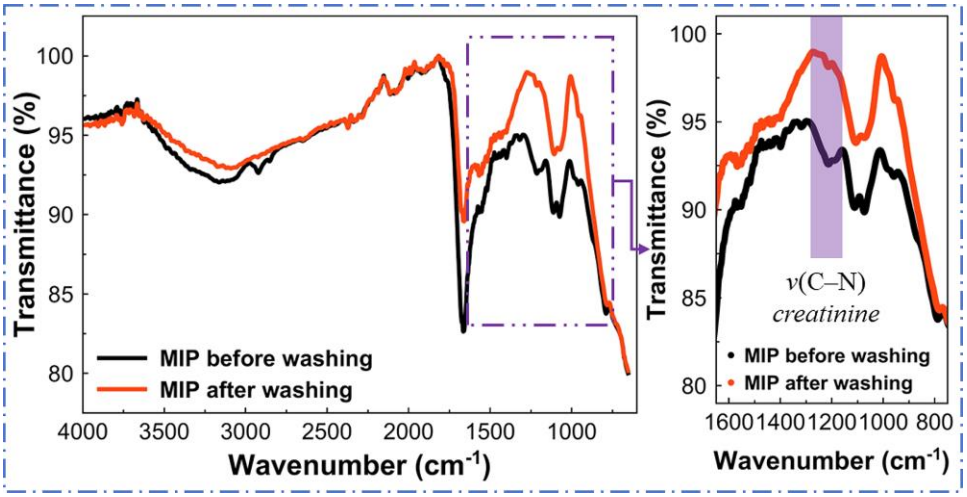

Figure S1. FTIR spectra of Nb_2O_5@MIP nanoreceptors before and after washing out the template, creatinine.

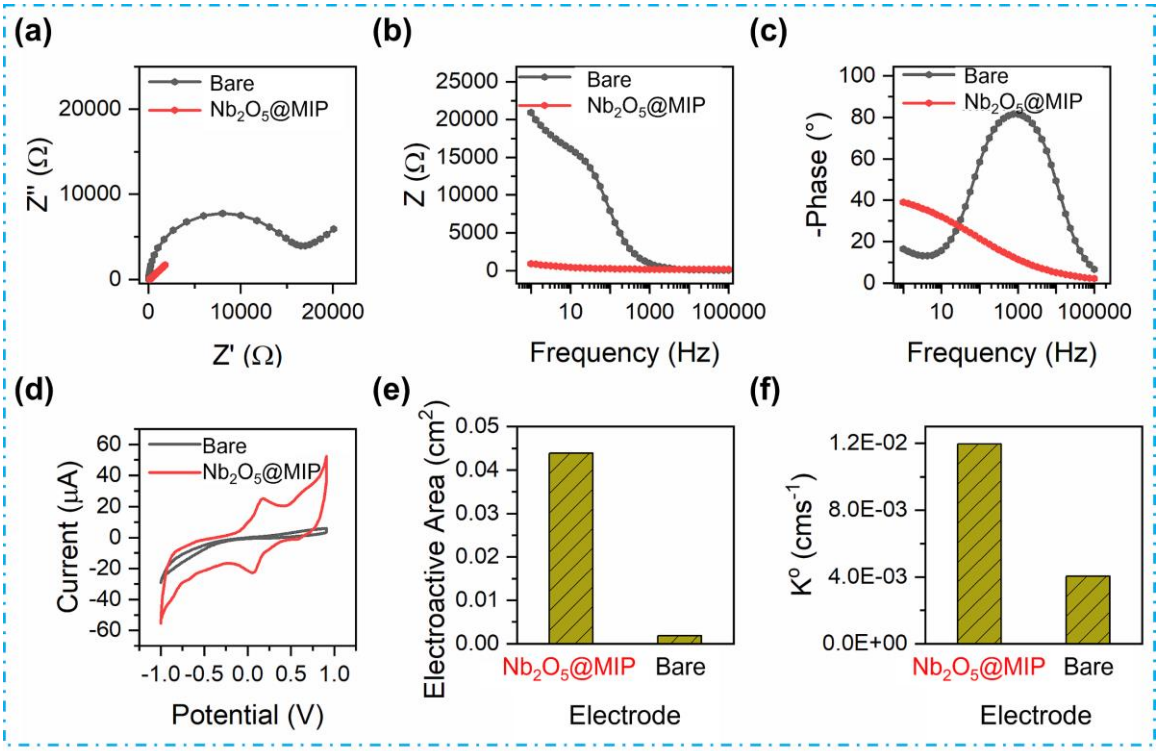

Figure S2. EIS and CV analyses: (a) Nyquist plots, (b) Bode magnitude plots, (c) Bode phase angle plot, and (d) CV scans of the bare and Nb_2O_5@MIP modified electrodes. A comparison of (e) the electroactive surface area and (f) the heterogeneous rate constant of the bare and Nb_2O_5@MIP modified electrodes. All measurements are performed in a redox solution containing $[Fe(CN)_6]^{3-/4-}$ (2.5 mM), KCl (0.05 M) in PBS (pH 7.4).

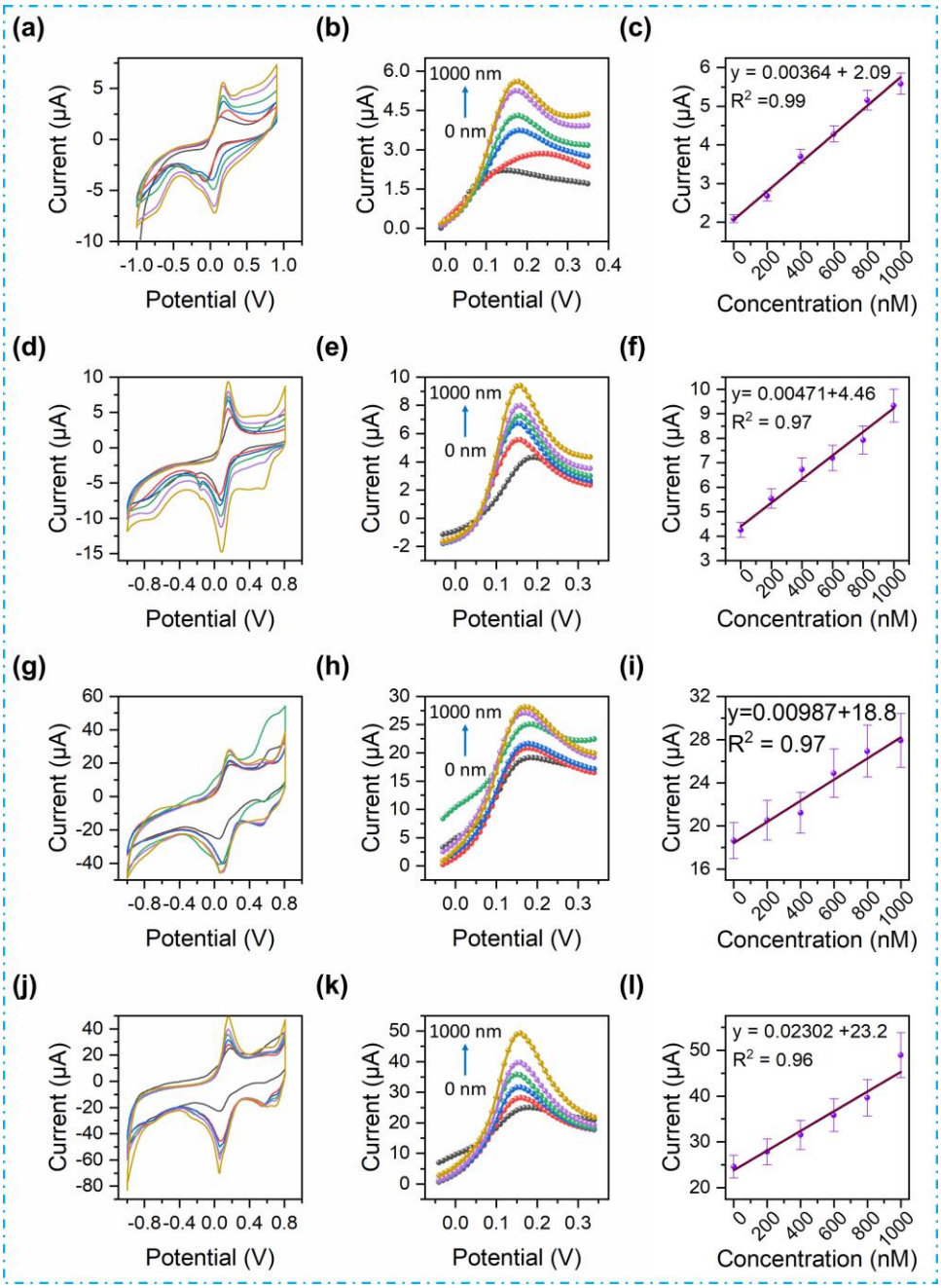

Figure S3. CV scans and corresponding calibration plots of (a-c) NIP, (d-f) MIP, (g-i) Nb_2O_5@NIP, and (j-l) Nb_2O_5@MIP sensors at varying concentrations of creatinine (0–1000 nM) in a redox solution. All measurements are performed in a redox solution containing $[Fe(CN)_6]^{3-/4-}$ (2.5 mM), KCl (0.05 M) in PBS (pH 7.4).