Supporting Information for

Fabrication of a novel electrochemical sensor for determination of water in some organic solvents based on naphthalene conducting polymers

Safoura Bakhtiari Haft Lang\textsuperscript{a}, Elmira Azizi\textsuperscript{b}, Jalal Arjomandi\textsuperscript{b,\ast}, Davood Nematollahi\textsuperscript{b} and Ahmad Reza Massah\textsuperscript{a},

\textsuperscript{a}Department of Chemistry, Shahreza Branch, Islamic Azad University, Shahreza, Isfahan 86145-311, Iran

\textsuperscript{b}Faculty of Chemistry, Bu-Ali Sina University, Hamedan, 65178, Iran

---

![Graph A](image1.png)

![Graph B](image2.png)

![Graph C](image3.png)

![Graph D](image4.png)

\[ R^2 = 0.9774 \]

\[ R^2 = 0.9855 \]
Fig. 1S Scan rate and square root of scan rates dependency of the current for (A, B) PDAN, (C, D) PDHN, (E, F) PDAN/TiO$_2$ and (G, H) P(DAN-co-DHN) films

Fig. 2S FT-IR spectra of PDAN (A), PDHN (B), PDAN/TiO$_2$ (C) and P(DAN-co-DHN) (D) films
Fig. 3S Cycle number dependency of the current of PDAN and PDAN/TiO$_2$ electrodes recorded for the ACN, EtOH and MeOH solutions
Fig. 4S Response potential dependency of the current of PDAN and PDAN/TiO₂ electrodes recorded for the ACN, EtOH and MeOH solutions
Fig. 5S Response time dependency of the current of PDAN and PDAN/TiO₂ electrodes recorded for the ACN, EtOH and MeOH solutions
I/µA vs Time (sec)

Panel A

Panel B
Fig. 6S The response time of the Au/PDHN electrode to changes in the water content of (A) ACN, (B) EtOH and (C) MeOH solutions under optimizes conditions. (Inset): Calibration plots for determining water content in solutions.
Fig. 7S The response time of the Au/P(DAN-co-PDHN) electrode to changes in the water content of (A) ACN, (B) EtOH and (C) MeOH solutions under optimizes conditions. (Inset): Calibration plots for determining water content in solutions.