*Article*

# Preparation and boron removal performance of glycidol modified PANI nanorods: an optimization study based on response surface methodology

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**Table S1.** Low- and high-level values for the independent variables

| Factors | Symbol | Unit | Code level | |
|---|---|---|---|---|
| | | | Low level | High level |
| Adsorption time | A | h | 6 | 10 |
| Boric acid concentration | B | mg/L | 1200 | 1400 |
| pH | C | — | 9 | 11 |
| Response | Adsorption capacity | mmol/g | | |

**Table S2.** Parameters of kinetic model fitting for PANI-OH adsorbed boron

| | Pseudo-first-order kinetics model | | | Pseudo-second order kinetic model | | |
|---|---|---|---|---|---|---|
| Models and parameters | $\ln(q_e - q_t) = \ln q_e - k_1 t$ | | | $\frac{t}{q_t} = \frac{1}{k_2 \times q_e^{\ 2}} + \frac{t}{q_e}$ | | |
| | $k_1$ | $q_e$ | $R^2$ | $k_2$ | $q_e$ | $R^2$ |
| value | 0.2848 | 0.2116 | 0.9950 | 1.044 | 0.2844 | 0.9919 |

**Table S3.** Fitting parameters of internal diffusion model of adsorbate to adsorbent PANI-OH

| Model parameter | Intraparticle diffusion model $q = kt^{0.5} + c$ | | |
|---|---|---|---|
| | k | c | $R^2$ |
| value | 0.0621 | 0.01836 | 0.94931 |

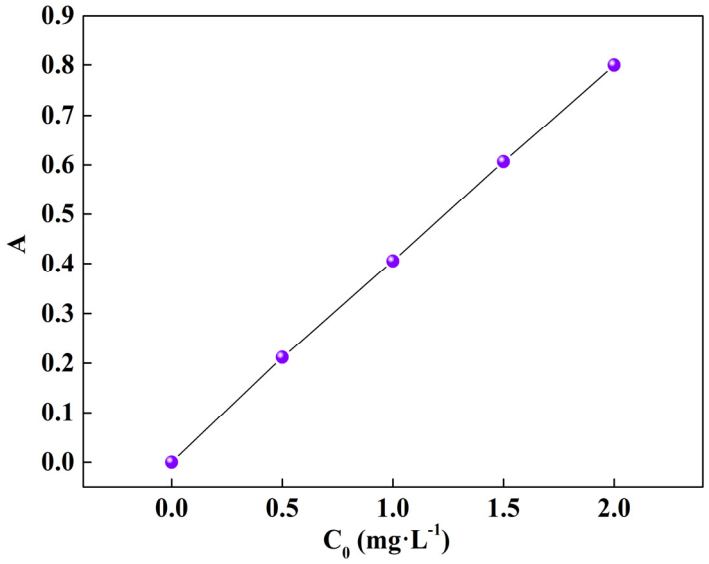


**Figure S1**. Standard curve of boron concentration

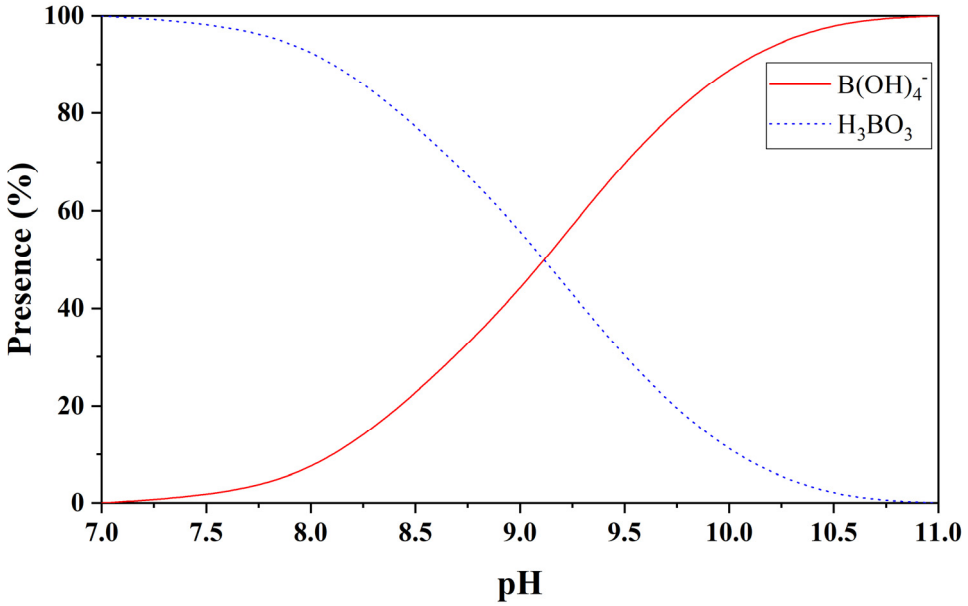


**Figure S2.** Fraction of boron in the aqueous solution at different pH values.