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Supplementary material-Clean vision

1 Modification of Pd-loaded electrode with carbon nanotubes-polypyrrole interlayer and

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its dechlorination performance for 2,3-dichlorophenol

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- 9 1. The removal and dechlorination efficiency of Pd/CNTs-PPy/Ti electrode and Pd/Ti electrode on 2,3-DCP
- 10 dechlorination. Constant current, 5 mA; Initial pH, 2.5.



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1 2. The optimization experiments of the pulsed-current conditions

In the experiments, we prepared the electrodes based on single factor method and characterized the properties of the electrode by CV curves to optimize pulsed-current electrodeposition conditions. The following six figures (Fig. S2-S7) showed the CV curves of different Pd/CNTs-PPy/Ti electrodes prepared under various conditions. As the pictures showed, when Pd particles were loaded on CNTs-PPy/Ti surface by 1000 cycles pulsed-current electrodeposition, with the pulse current density of 12.5 mA cm⁻² during the turn-on time, turn-on time of 1.25 s and turn-off time of 0.75 s, and concentration of PdCl₂ was 10 mM with pH value of 2.5, Pd/CNTs-PPy/Ti electrode had the highest hydrogen adsorption peak current, which meant higher catalytic activity.



Fig. S2 CV curves of Pd/CNTs-PPy/Ti electrodes at different jps



Fig. S3 CV curves of Pd/CNTs-PPy/Ti electrodes at different Toffs

9 10



Fig. S4 CV curves of Pd/CNTs-PPy/Ti electrodes at different Tons



Fig. S5 CV curves of Pd/CNTs-PPy/Ti electrodes at different numbers of pulse cycles



Fig. S6 CV curves of Pd/CNTs-PPy/Ti electrodes at different concentrations of PdCl₂.



Fig. S7 CV curves of Pd/CNTs-PPy/Ti electrodes at different pH values of the electrodeposition solution.

4 3. The effects of common anions in aqueous solution



Fig. S8 The effects of anions on removal (a) and dechlorination efficiency (b) of 2,3-DCP dechlorination.

8 4. The effects of common cations in aqueous solution



