

Supporting Information

Effect of MWCNTs-modified graphite felts on hexavalent chromium removal in biocathode microbial fuel cells

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TEXT (1)

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Calculations

1. Total coulombs transferred (C_t):
$$C_t = \int_0^t I dt$$

where, I is the current and t is the total time of current flow.

2. Total coulombs required (C_r) for the reduction of Cr(VI) to Cr(III):

$$C_r = \frac{nFVc}{M}$$

where, n is the number of electrons involved in Cr(VI) reduction (3 moles/mol), F is the Faraday constant (96,485.3 Coulombs/mol), V is the volume of the catholyte (L), c is the concentration of Cr(VI) (g/L) and M is the molecular weight of chromium (52 g/mol).

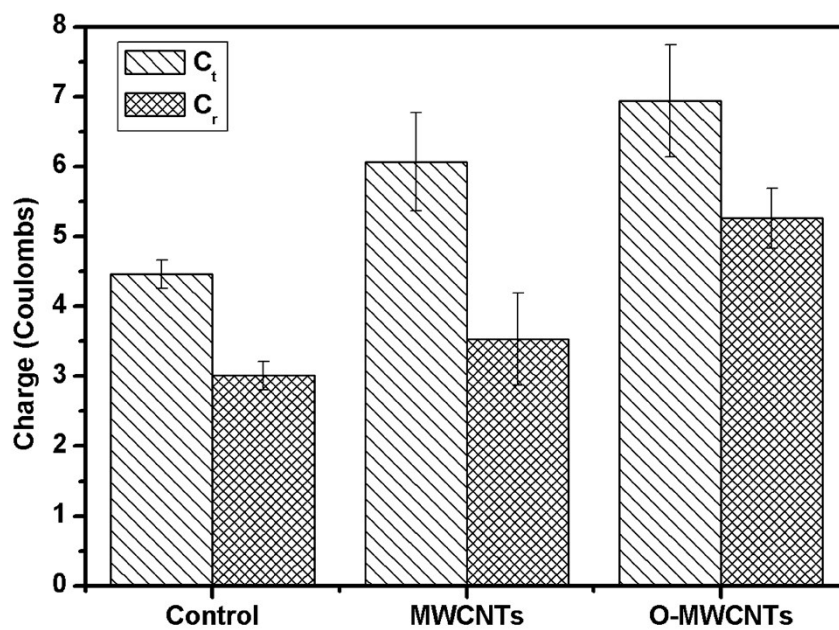


Fig. S1. The comparison of the total coulombs transferred (C_t) and coulombs required (C_r) for the reduction of Cr(VI) in the different MFCs at the end of 10 h operation time.

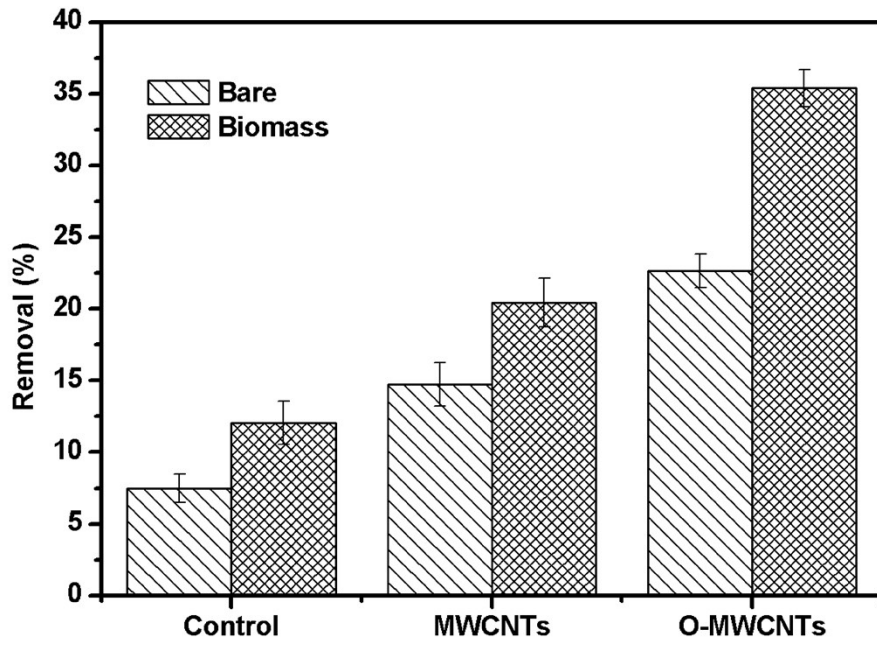


Fig. S2. The Cr(VI) removal of the three electrodes with and without biomass after 24h-adsorption experiment.

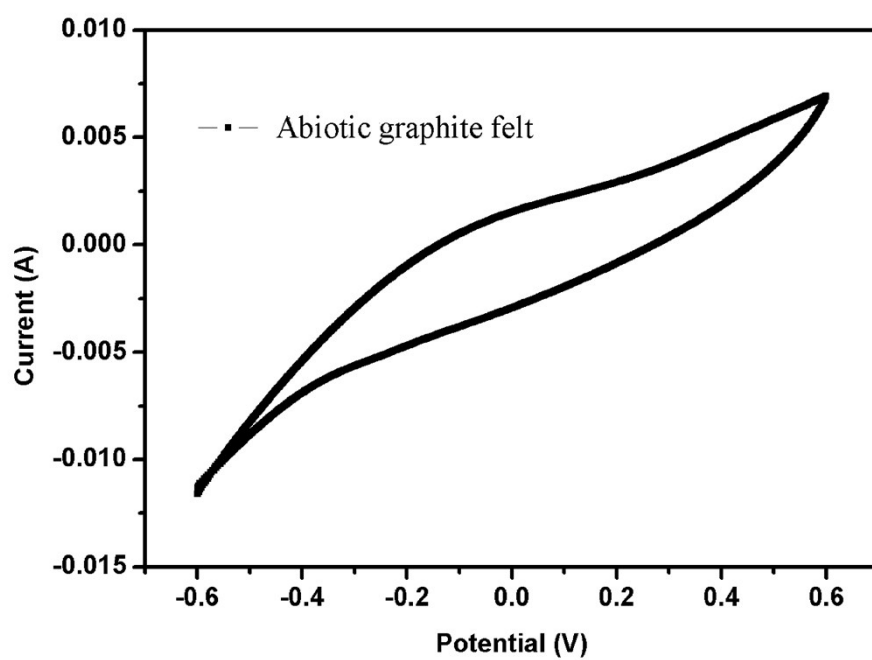


Fig. S3. Cyclic voltammogram of the abiotic graphite felt in a MFC (vs. Ag/AgCl, scan rate of 5 mV/s over the range -600 mV to +600 mV).