Supporting Information

Preparation of N-doped carbon nanosheets from sewage sludge for adsorption studies of Cr(VI) from aqueous solution

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This file includes supplementary Figures S1-S9.

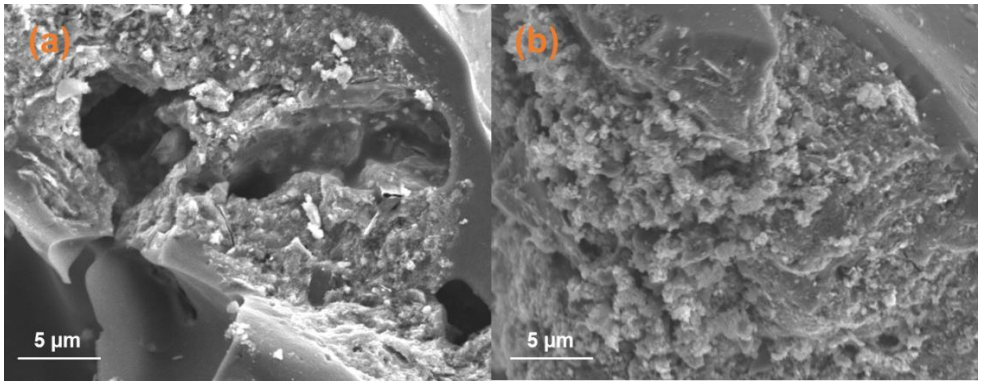

Figure S1. (a) and (b) The SEM images of raw materials of sewage sludge carbon (SS).

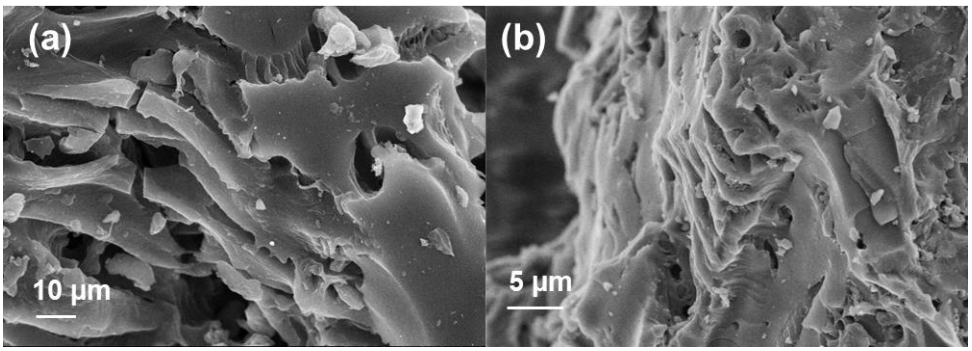

Figure S2. (a) and (b) The SEM image of sludge-based activated carbon (SAC).

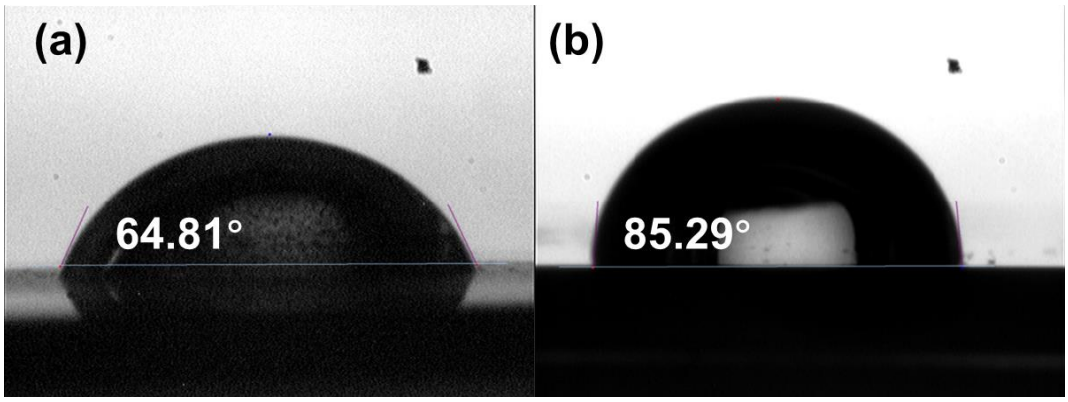

Figure S3. Water contact angle measurement for (a) N-SAC and (b) SAC.

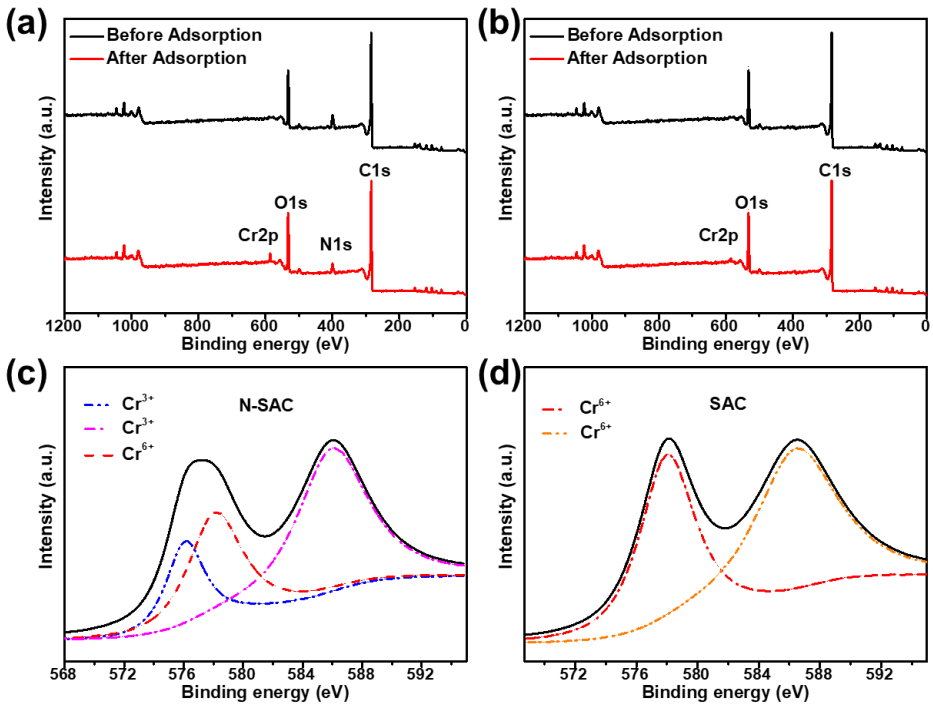

Figure S4. (a), (b) X-ray photoelectron spectroscopy (XPS) of N-SAC and SAC before and after Cr^{6+} adsorption, (c), (d) High resolution XPS of Cr^{6+} after adsorption in N-SAC and SAC, respectively.

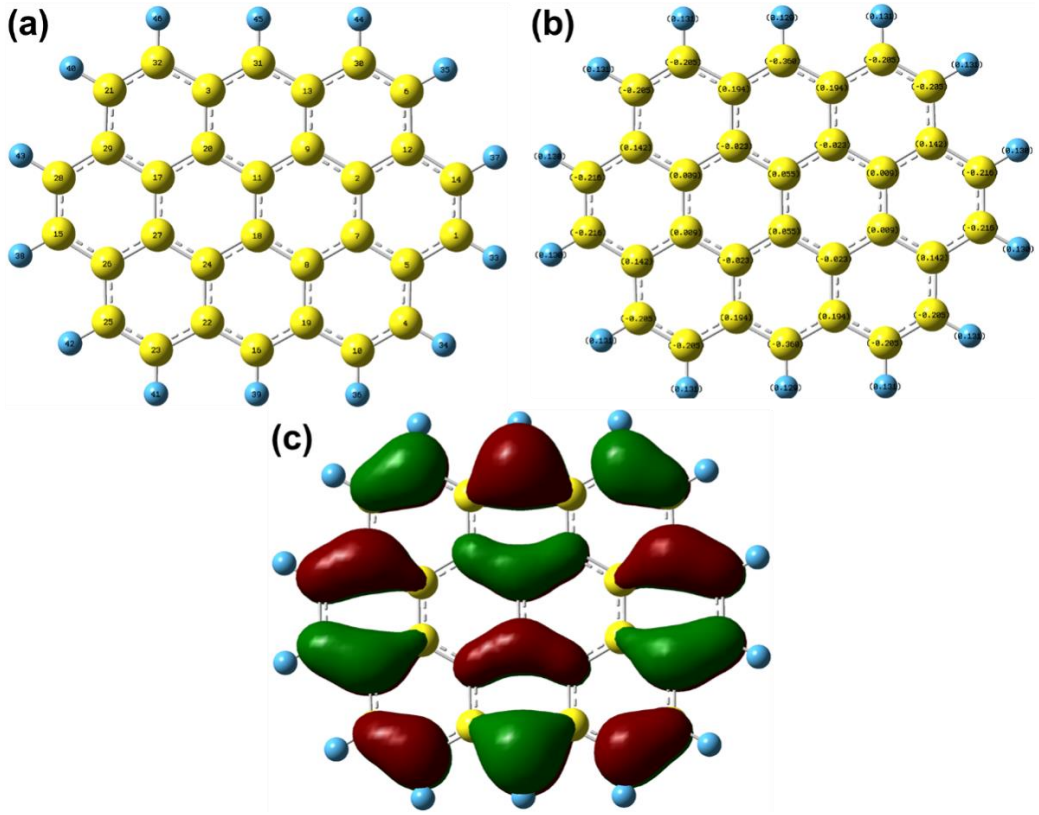

Figure S5. (a) Atom label and (b) Mulliken charge density and (c) HOMO energy of carbon atoms in Gra model. Atom color code: yellow is carbon and blue is hydrogen.

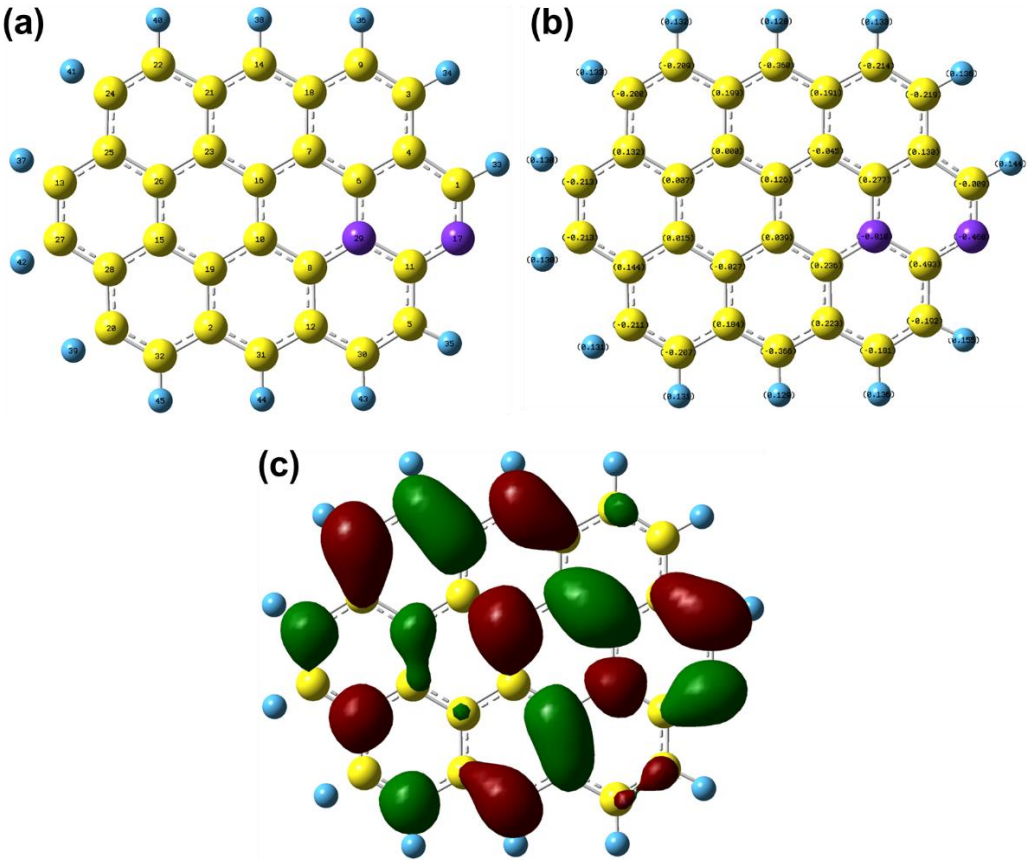

Figure S6. (a) Atom label and (b) Mulliken charge density and (c) HOMO energy of carbon atoms in Gra-N model. Atom color code: yellow is carbon and blue is hydrogen.

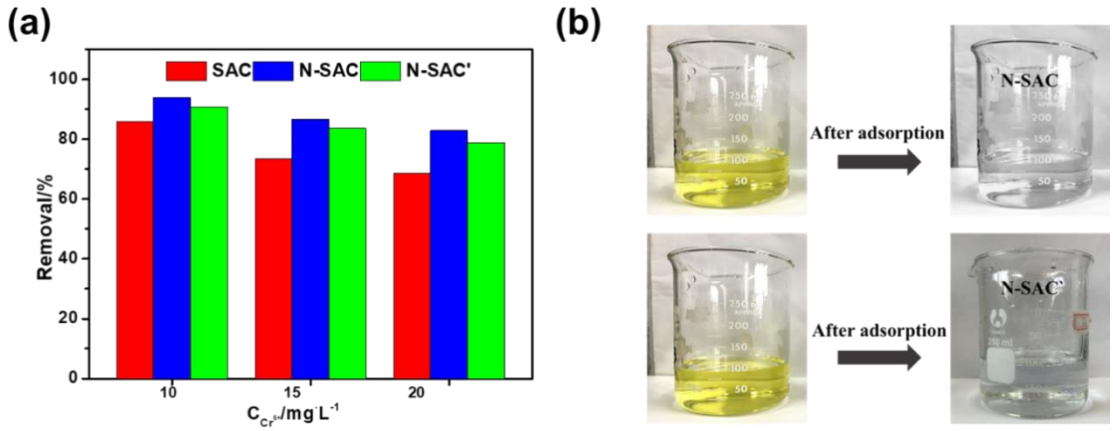

Figure S7. The adsorption effect of Cr^{6+} removing from wastewater by SAC, N-SAC and N-SAC', (a) removal rate, (b) Color change of solution before and after adsorption

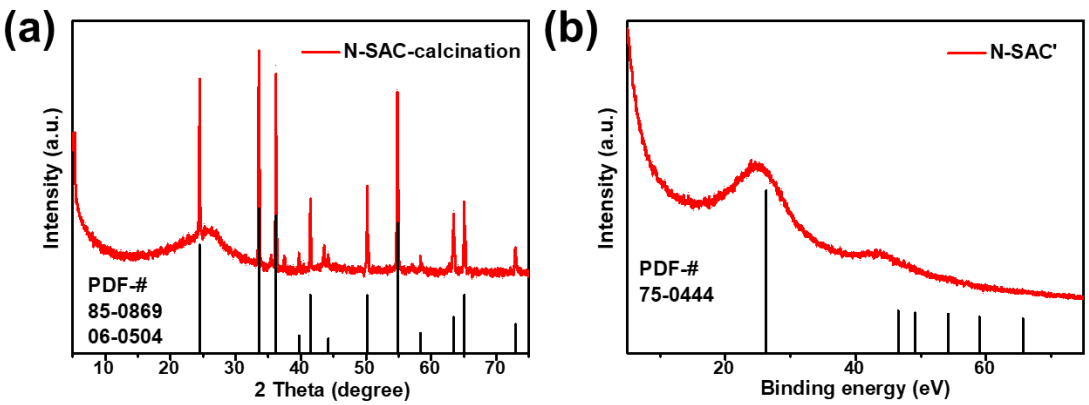

Figure S8. (a) XRD pattern of N-SAC after calcination, (b) XRD pattern of N-SAC' after regeneration.

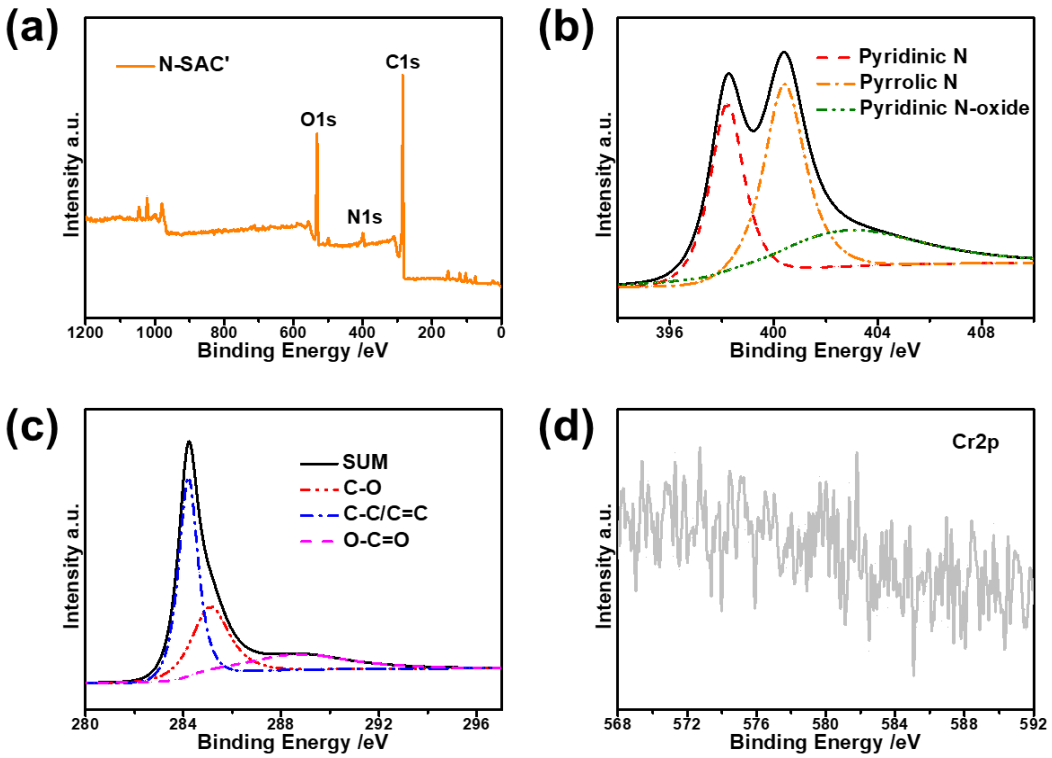

Figure S9. X-ray photoelectron spectroscopy (XPS) of (a) N-SAC', and high resolution XPS of (b) (c) (d) N, C and Cr respectively.