Supporting Information

Mussel-inspired PDA/Ag Nanocomposite Catalyst for High-efficient Cr(VI) Removal via Visible Light-induced Reduction and Absorption

*Xi Lu[a], Zhiwei Gao[b], Guihua Wang[c], Sheng Chen[c], Yingchun Gu[c], Bin Yan[c], Qin Yang[c]**

[a] *Sinopec Petroleum Exploration and Production Research Institute, Beijing, 100083, China*

[b] *Xinjiang Xinchun Petroleum Development Co., Ltd., Sinopec, Dongying, Shandong, 257000, China*

[c] *National Engineering Laboratory for Clean Technology of Leather Manufacture, College of Biomass Science and Engineering, Sichuan University, Chengdu, 610065, China*

**Corresponding authors. E-mail: yangqin@scu.edu.cn (Q. Y)*

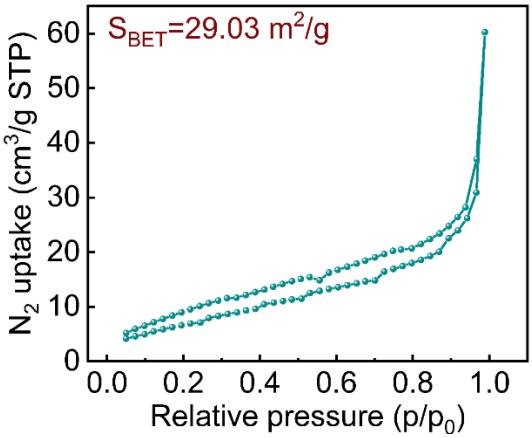

Fig. S1. Nitrogen adsorption-desorption isothermal curve of PDA/AgNPs at 77 K.

Table S1. EDS analysis of PDA/AgNPs-2.

Element	Atomic Fraction (%)	Mass Fraction (%)
C	59.61	40.62
N	10.02	7.96
O	22.83	20.72
P	3.54	6.22
Ag	4.00	24.48

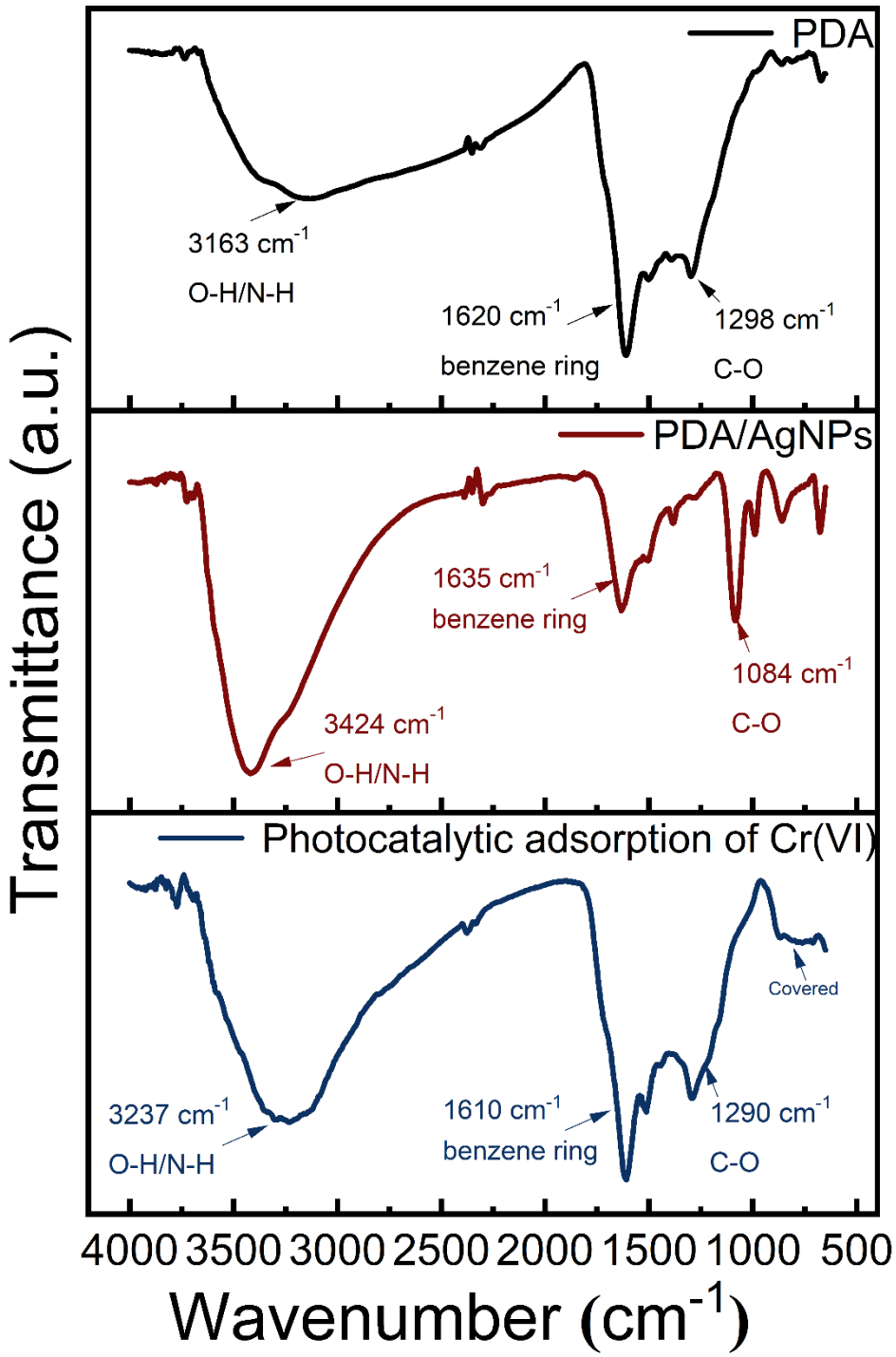

Fig. S2. FT-IR spectra of PDA (black), PDA/AgNPs (red), and PDA/AgNPs (blue) after photocatalytic adsorption of Cr(VI).

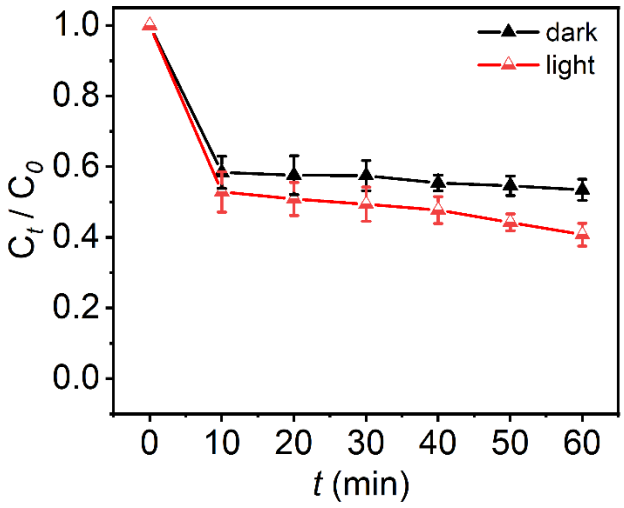

Fig. S3. Removal ratios of Cr(VI) with PDA upon illumination or in dark. Reaction conditions: 0.1 g/L PDA, 10 mg/L Cr(VI) and 5.6 mmol/L CA in 25 mL solution, pH = 2.80, T = 298 K.

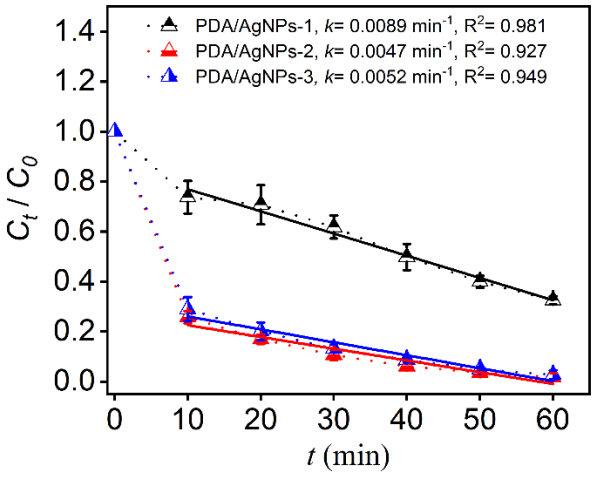

Fig. S4. Plots of C_t/C_0 vs irradiation time for the removal of Cr(VI) by different PDA/AgNPs between 10 min and 60 min.

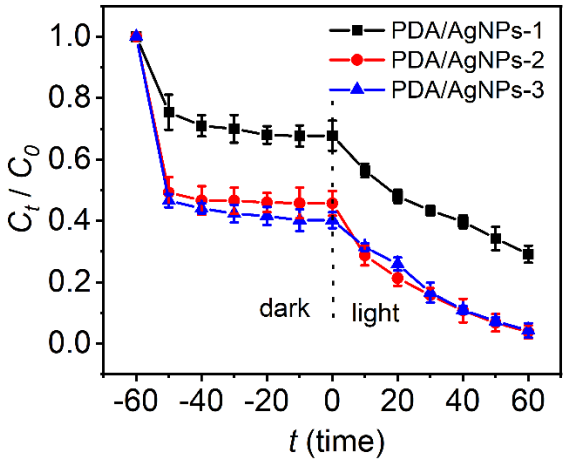

Fig. S5. Absorption and photoreduction of Cr(VI) over different PDA/AgNPs composites upon visible-light irradiation (λ >420 nm). Conditions: 0.1 g/L photocatalyst, 10 mg/L Cr(VI) and 5.6 mmol/L CA in 25 mL solution, pH = 2.80, T = 298 K.