Investigation of adsorption and photocatalytic activities of in situ cetyltrimethylammonium bromide-modified Bi/BiOCl heterojunction photocatalyst for organic contaminants removal

Wentao Li [a,c], Feng Xiao [a,*], Hang Su [b], Dongsheng Wang [a], Xiaofang Yang[a]

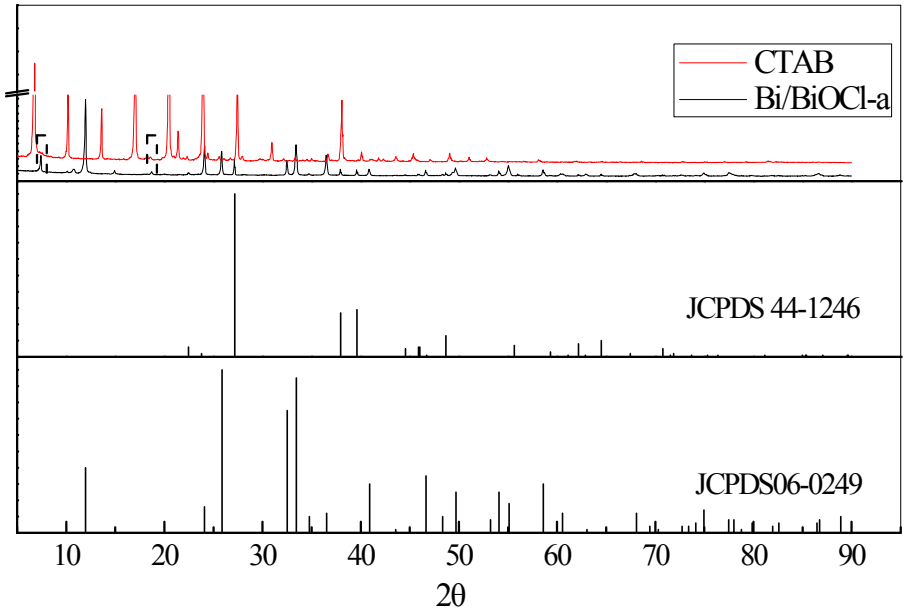
[a] Key Laboratory of Drinking Water Science and Technology, Research Center for Eco-Environmental Sciences, University of Chinese Academy of Sciences, No.18, Shuangqing Road, Haidian District, Beijing, 100085, China

[b] School of Environmental and Municipal Engineering, Xi'an University of Architecture and Technology, Xi'an, 710055, China.

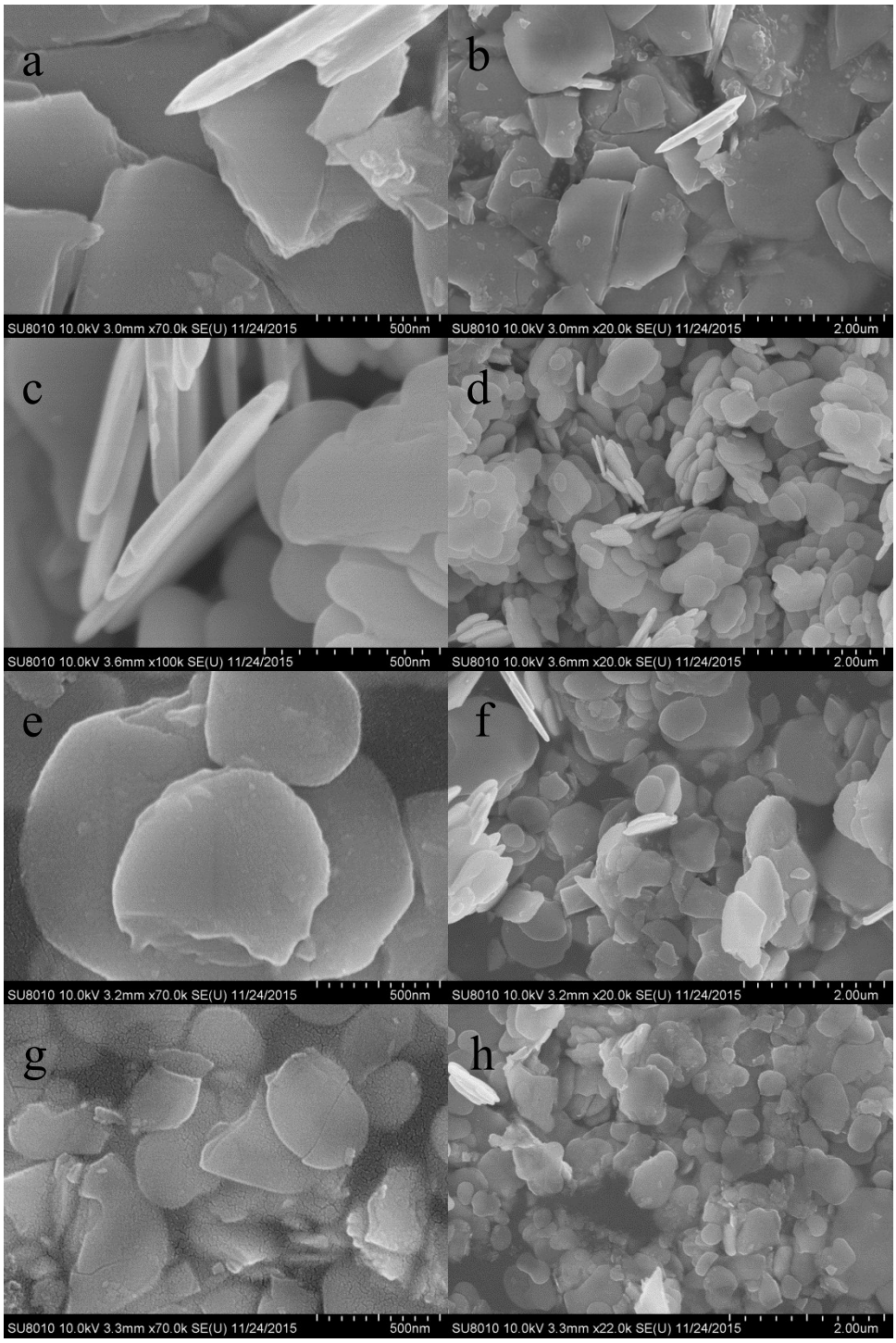
[c] University Chinese Academy of Sciences, Beijing 100085, China

*Corresponding Author. Tel: +86 10 62849 138; Fax: +86 10 6284 9138

E-mail address: fengxiao@rcees.ac.cn (F. Xiao)



FigureS1. Standard XRD peaks of BiOCl structure (JCPDS 06-0249),Bi(JCPDS 44-1246)and XRD patterns of CTAB and Bi/BiOCl-a



FigureS2. SEM of Bi/BiOCl and BiOCl: BiOCl (a, b); Bi/BiOCl-a(c, d); Bi/BiOCl-b (e, f); Bi/BiOCl-c (g, h)

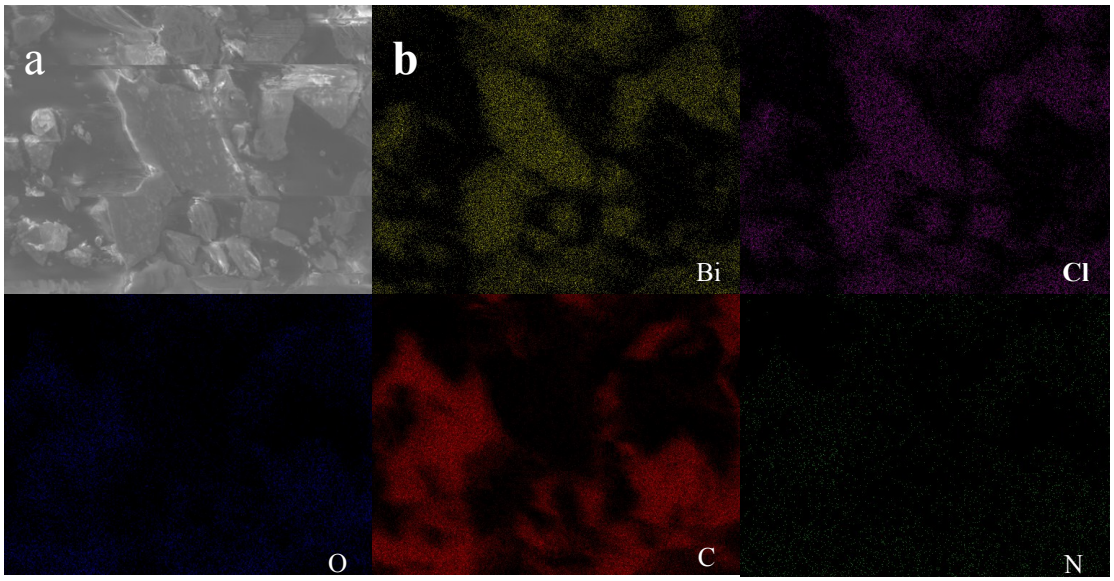


Figure S3. SEM(a) and EDS(b) mapping of Bi/BiOCl-a

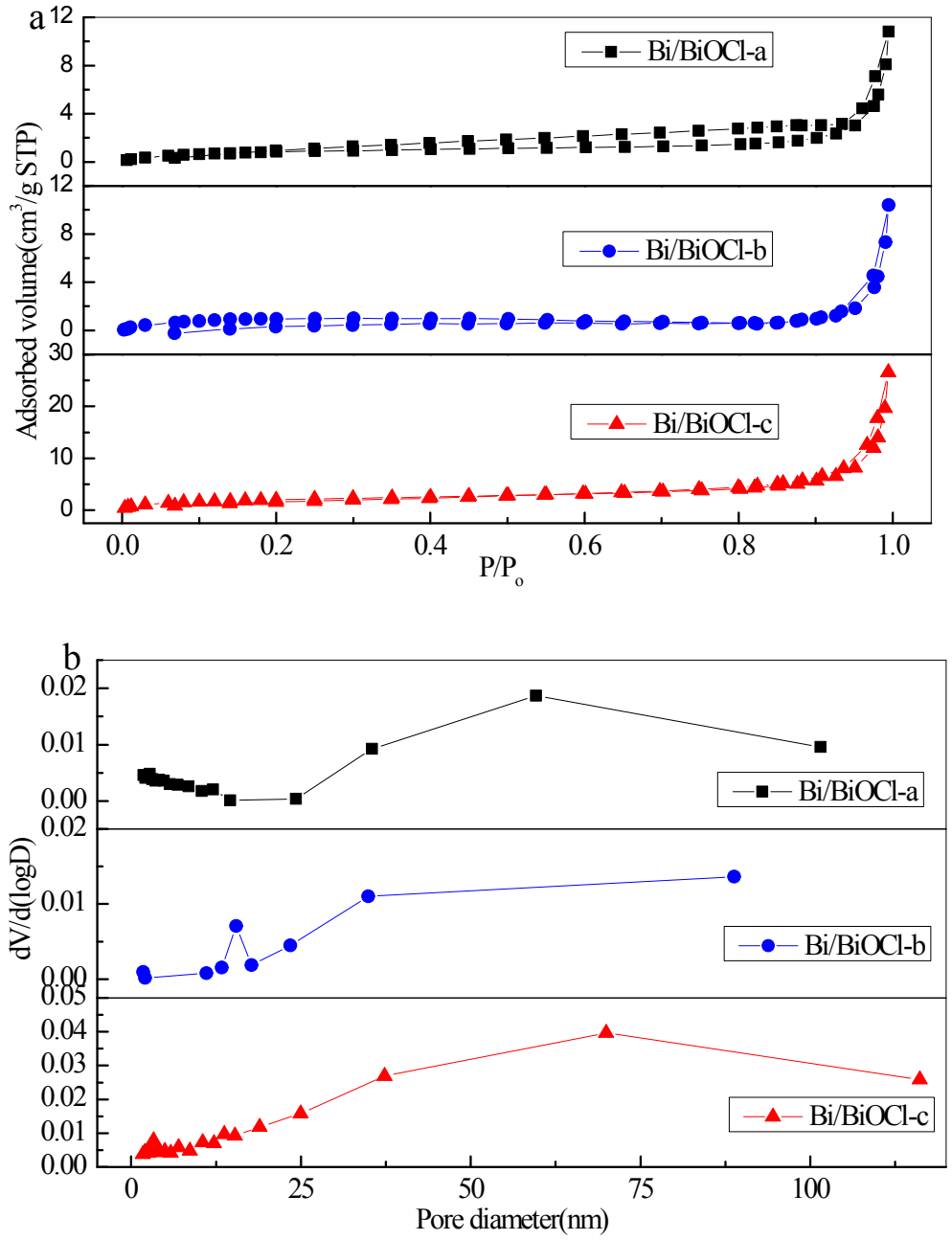


Figure S4. N_2 adsorption-desorption isotherms(a) and pore size distribution(b) of Bi/BiOCl -a, b, c

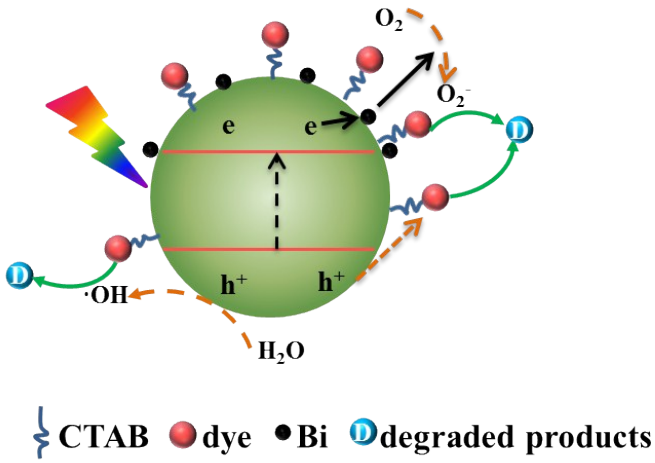


Figure S5. Schematic diagram of the possible reaction mechanism of dyes removal on the Bi/BiOCl with CTAB under visible light irradiation