

Electronic Supplementary Material (ESI) for RSC Advances.  
This journal is ©The Royal Society of Chemistry 2016

## Supporting Information

### **Template-free synthesis of salmon pink tube-shaped structure carbon nitride with enhanced visible light photocatalytic activity**

Youzhi Cao,<sup>a</sup> Xinbo Jing,<sup>a</sup> Yajuan Chen<sup>a</sup> Wenjie Kang<sup>a</sup> Shufen Wang<sup>\*b</sup> and Wei Wang<sup>\*b</sup>

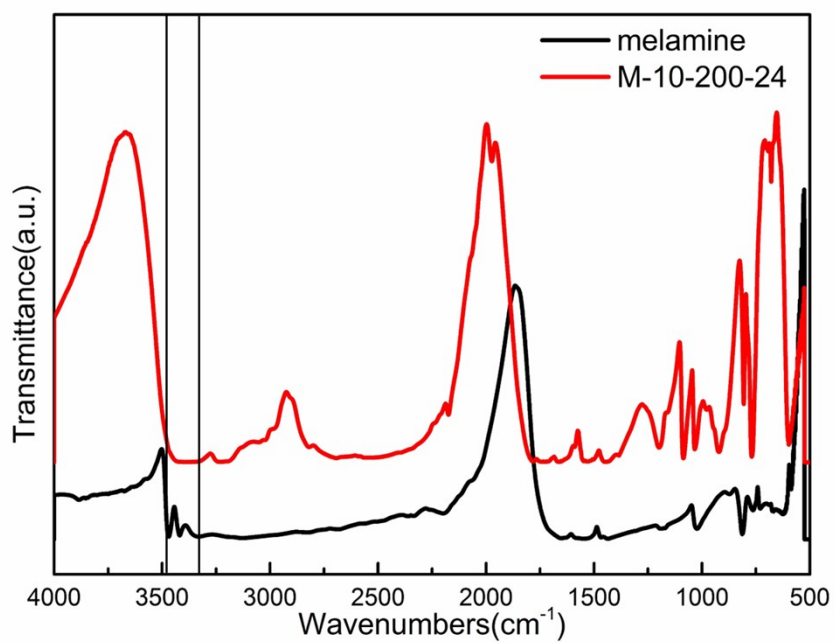
<sup>a</sup> School of Chemistry and Chemical Engineering/Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, Shihezi University, Shihezi 832003, China.

<sup>b</sup> College of Sciences, Shihezi University, Shihezi 832003, China.

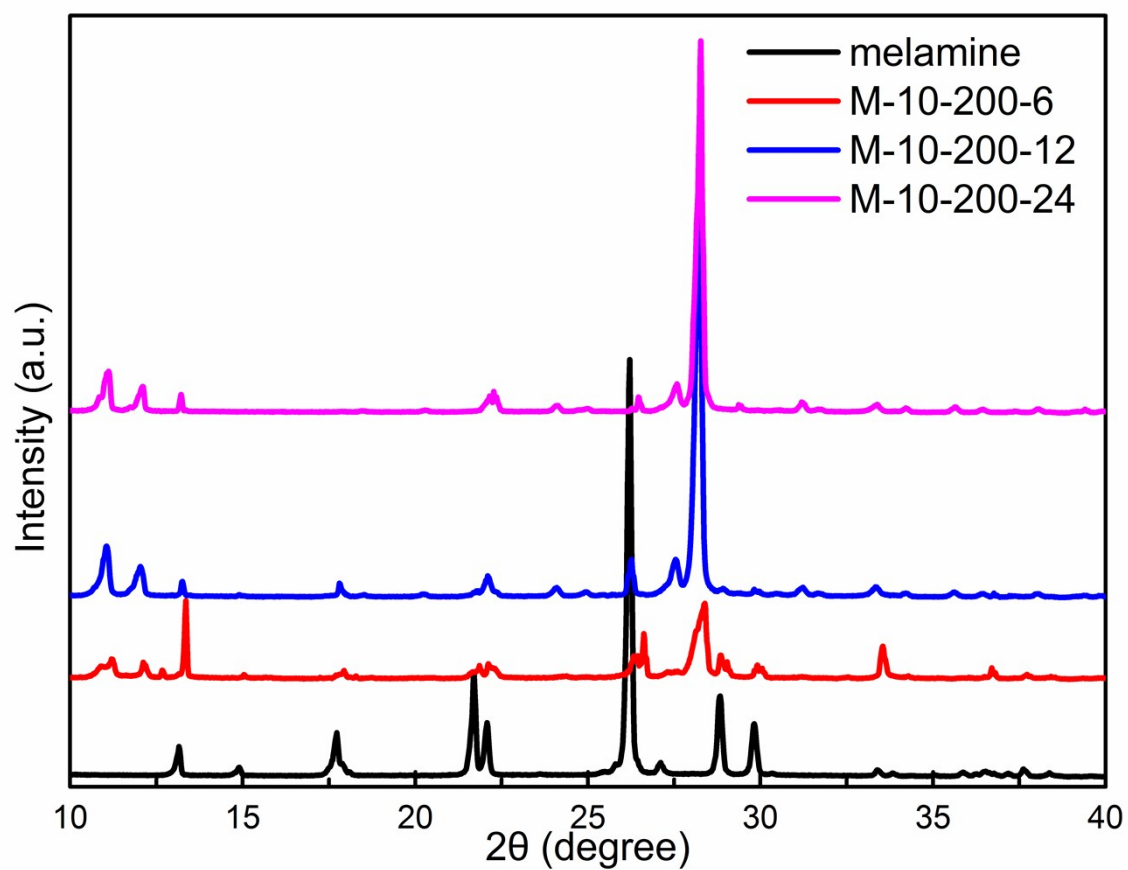
*\*wangwei\_group@sina.com*



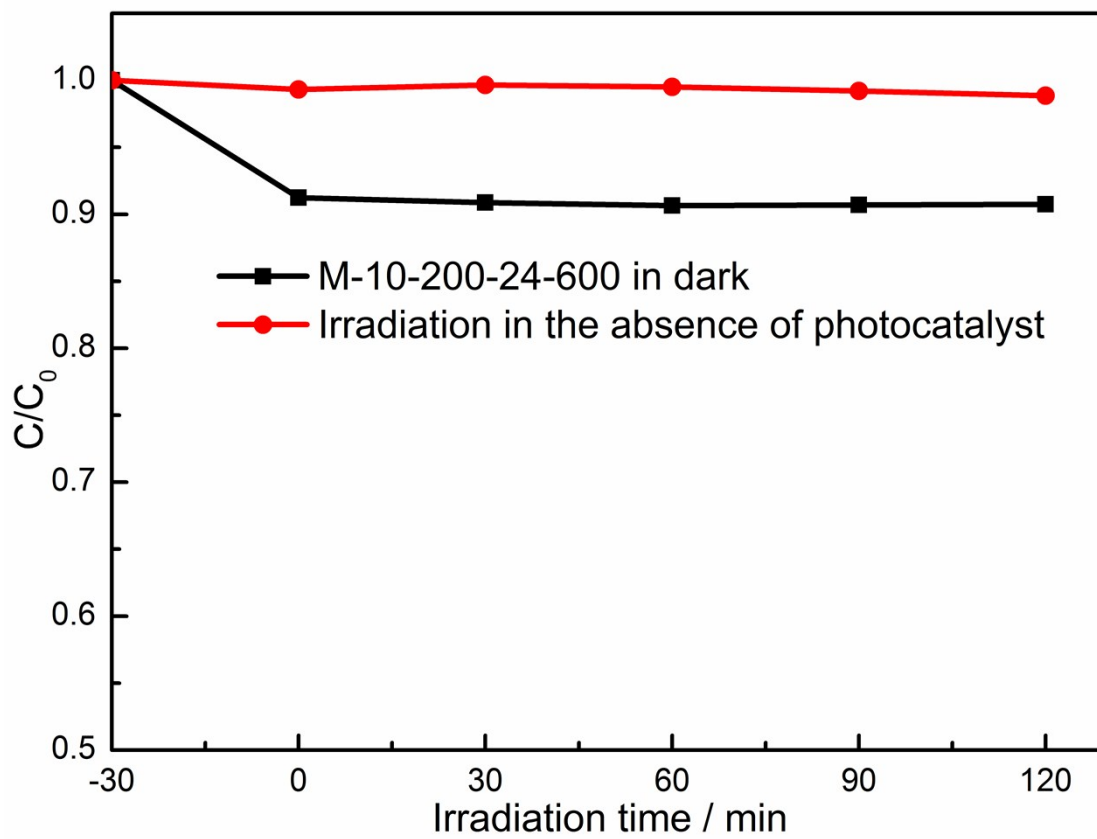
**Figure S1** the photographs of reaction phenomena for melamine or M-10-200-24 and 1mol/L HCl.



**Figure S2.** FT-IR spectra of melamine and M-10-200-24.



**Figure S3.** XRD patterns of monoclinic-phase melamine (raw melamine) and orthorhombic-phase melamine (melamine pretreated with a hydrothermal process).



**Figure S4** photocatalytic performances for the degradation of MO

**Table S1.** The deconvolution results of XPS spectra.

	C/N	C1s			N1s			
		C-C	N-C=N		C-N-C	N-[C] <sub>3</sub>	C-NH2	
		284.94eV	288.3eV	293.85eV	398.75eV	399.8eV	401.1eV	404.5eV
g-C <sub>3</sub> N <sub>4</sub>	0.7	14%	79%	7%	65%	24%	6%	5%
M-10-200-24-550	0.68	7%	87%	6%	65%	24%	16%	5%
M-10-200-24-600	0.88	29%	66%	5%	68%	19%	6%	7%
M-10-200-24-650	0.67	6%	89%	5%	71%	12%	14%	3%

**Table S2.** BET specific surface area and pore volume of the samples.

	g-C <sub>3</sub> N <sub>4</sub>	M-10-200-24-550	M-10-200-24-600	M-10-200-24-650
SBET (m <sup>2</sup> /g)	13.7	39.3	60.9	59
Pore volume (m <sup>3</sup> /g)	0.07	0.2	0.3	0.26