









## Supplementary Materials

**Table S1.** Colorimetry results of the pigments for dye removal test.

Sample	Colorimetric parameters						Photo
	L*	a*	b*	c	h	$\Delta E$	
CS	36.3	10.09	13.6	16.93	53.44	-	
CS <sub>acid</sub>	36.39	10.53	12.45	16.31	49.79	-	
CS <sub>alk</sub>	42.96	13.92	11.26	17.91	38.97	-	
CS+MB	14.9	-9.6	-5.89	11.27	38.97	35.01	
CS <sub>acid</sub> +MB	13.06	-7.57	-7.92	10.96	226.31	35.87	
CS <sub>alk</sub> +MB	13.32	-7.65	-6.02	9.74	248.2	40.53	
CS+CR	61.72	22.19	13.07	25.75	30.49	28.16	
CS <sub>acid</sub> +CR	70.31	22.32	13.98	26.34	32.05	35.94	
CS <sub>alk</sub> +CR	52.45	22.12	12.63	25.47	29.72	12.62	