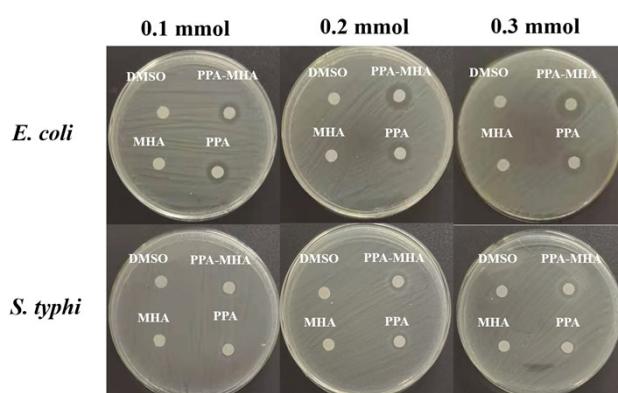
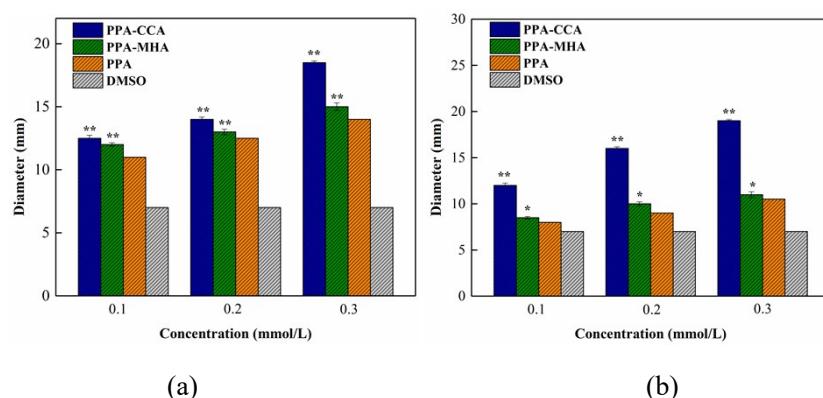


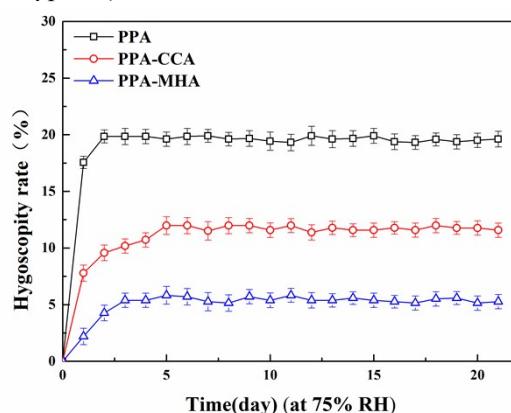
**Fig. S1.** Results of inhibitory zones of PPA and PPA-CCA on *E. coli* and *S. typhi*.



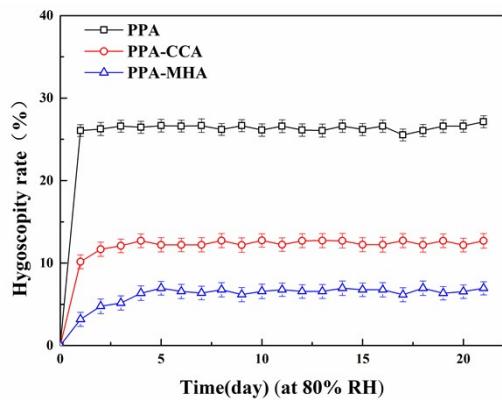
**Fig. S2.** Results of inhibitory zones of PPA and PPA-MHA on *E. coli* and *S. typhi*.



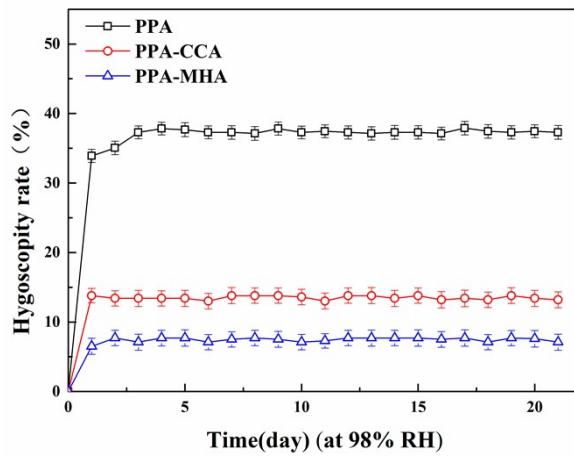
**Fig. S3.** Diameter of inhibitory zones of PPA-CCA, PPA-MHA, PPA and DMSO on (a) *E. coli* and (b) *S. typhi*, (note: \*indicated  $P<0.05$ , \*\*indicated  $P<0.01$ ).



**Fig. S4** Hygroscopicity of PPA, PPA-CCA and PPA-MHA at 75% RH.



**Fig. S5** Hygroscopicity of PPA, PPA-CCA and PPA-MHA at 80% RH.



**Fig. S6** Hygroscopicity of PPA, PPA-CCA and PPA-MHA at 98% RH.

**Table S1** Diameter of inhibitory zones of PPA, PPA-CCA and PPA-MHA on *E. coli* and *S. typhi*.

	E. coli (mm)			S. typhi (mm)		
	0.1 mmol	0.2 mmol	0.3 mmol	0.1 mmol	0.2 mmol	0.3 mmol
PPA-CCA	12.5±0.5	14±0.5	18.5±0.5	12±0.5	16±0.5	19±0.5
PPA-MHA	12±0.5	13±0.5	15±0.5	8.5±0.5	10±0.5	11±0.5
PPA	11±0.5	12.5±0.5	14±0.5	8±0.5	9±0.5	10.5±0.5
CCA	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5
MHA	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5
DMSO	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5	7±0.5