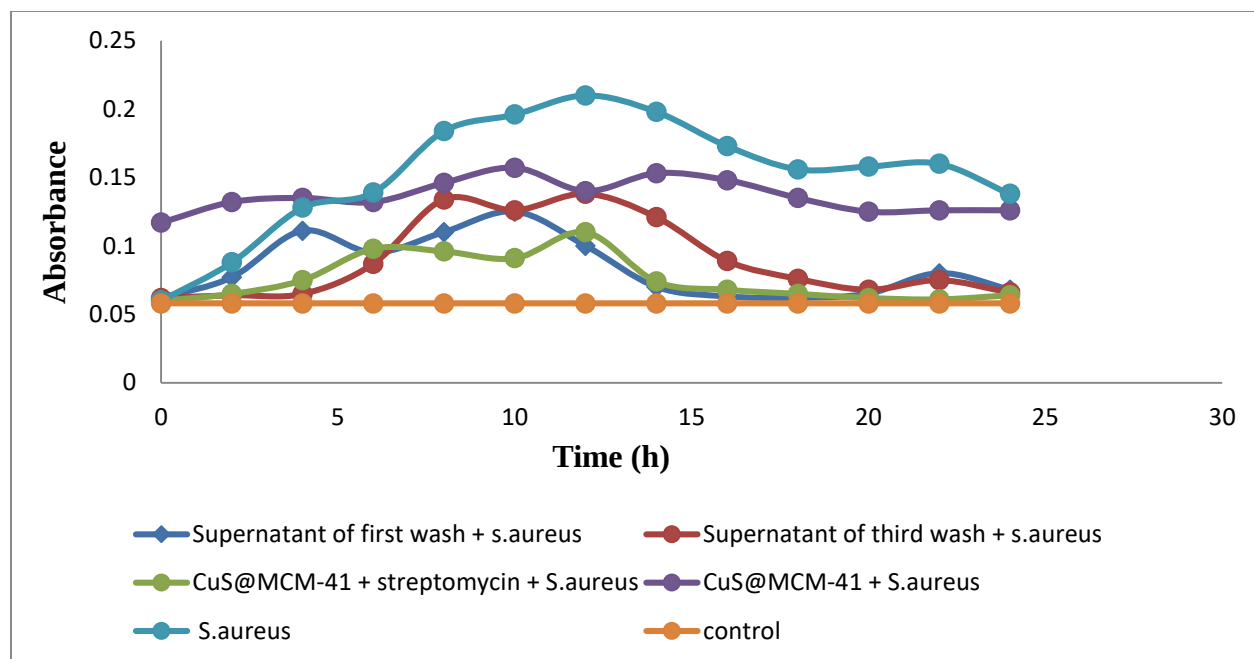
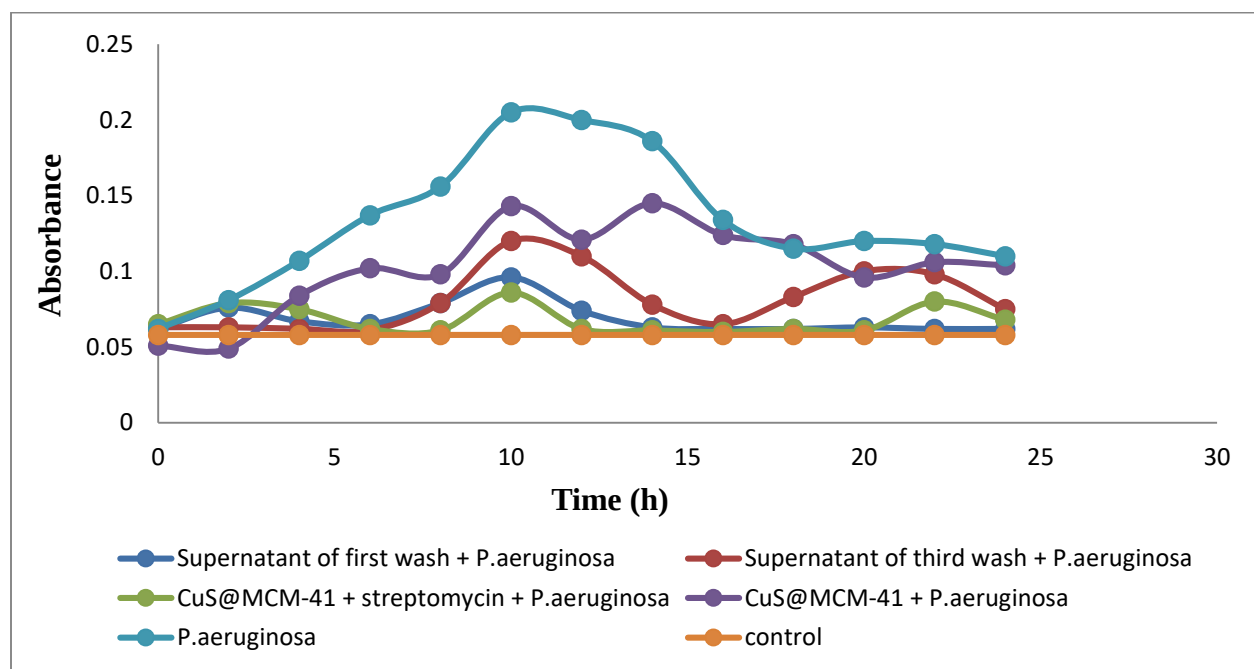
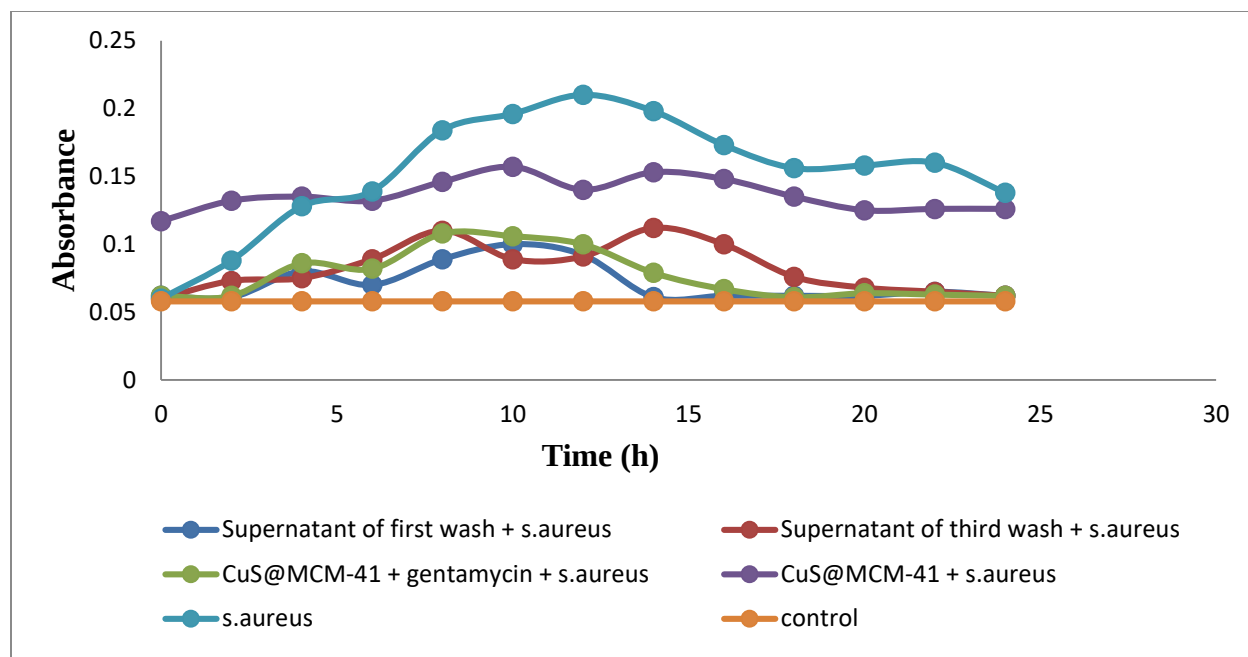




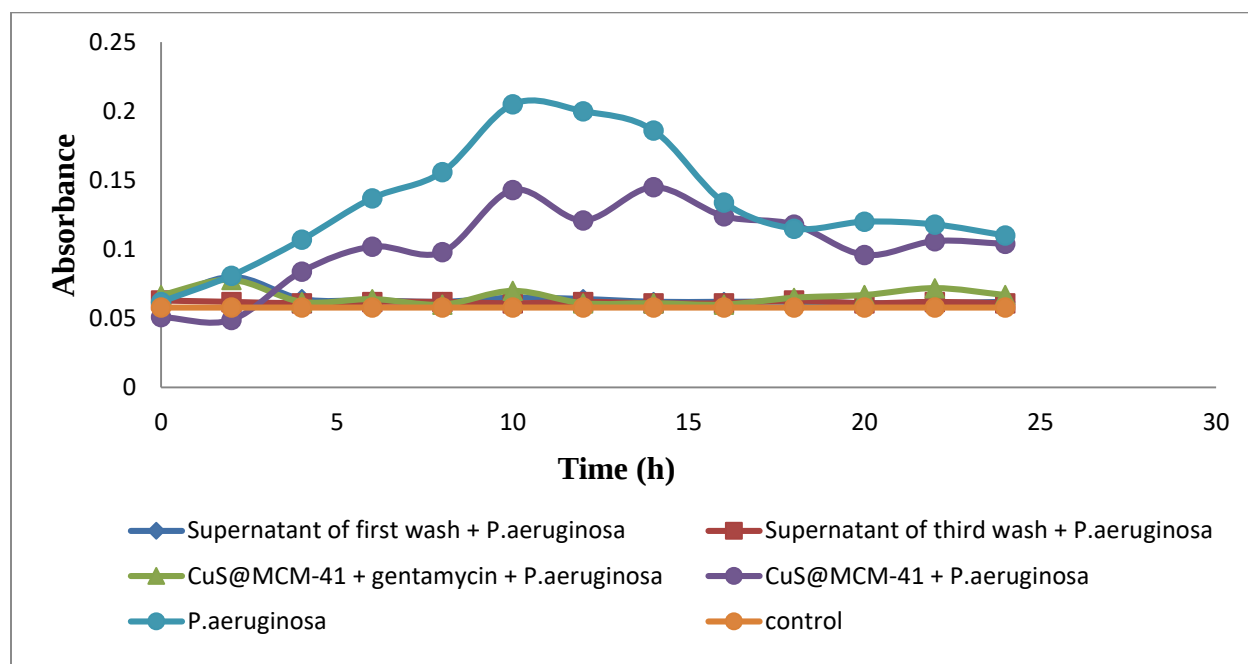
**Fig. S1.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Str on growth curve of *S. aureus* bacteria



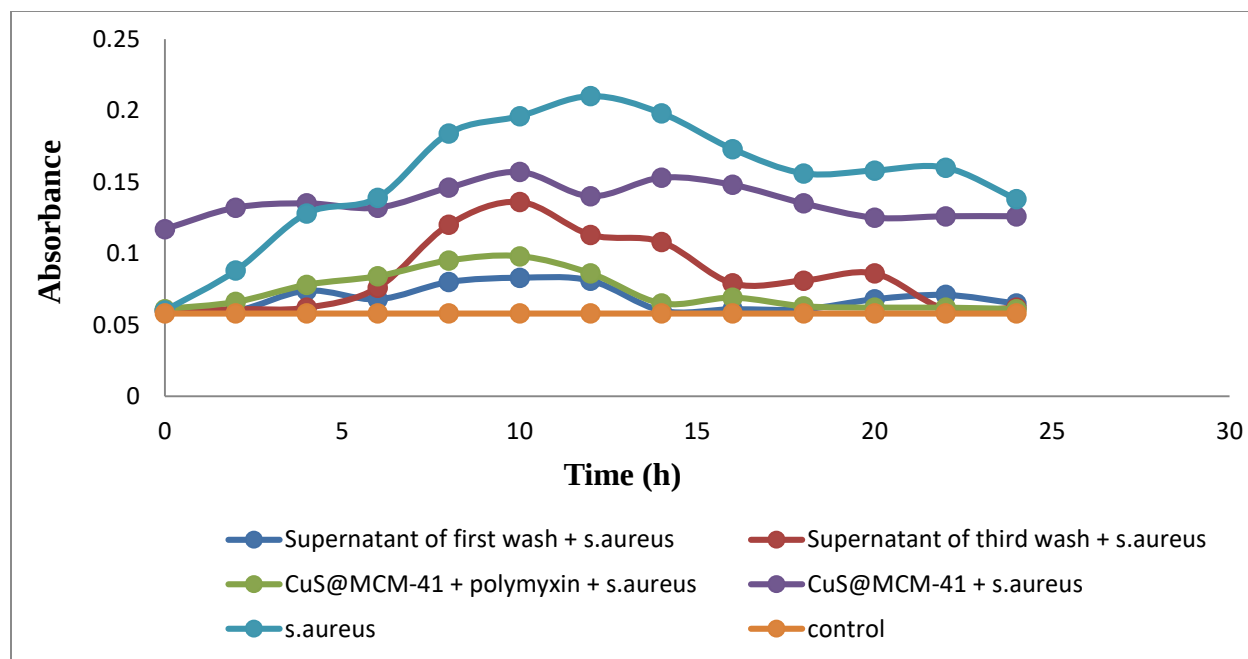
**Fig. S2.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Str on growth curve of *P. aeruginosa* bacteria



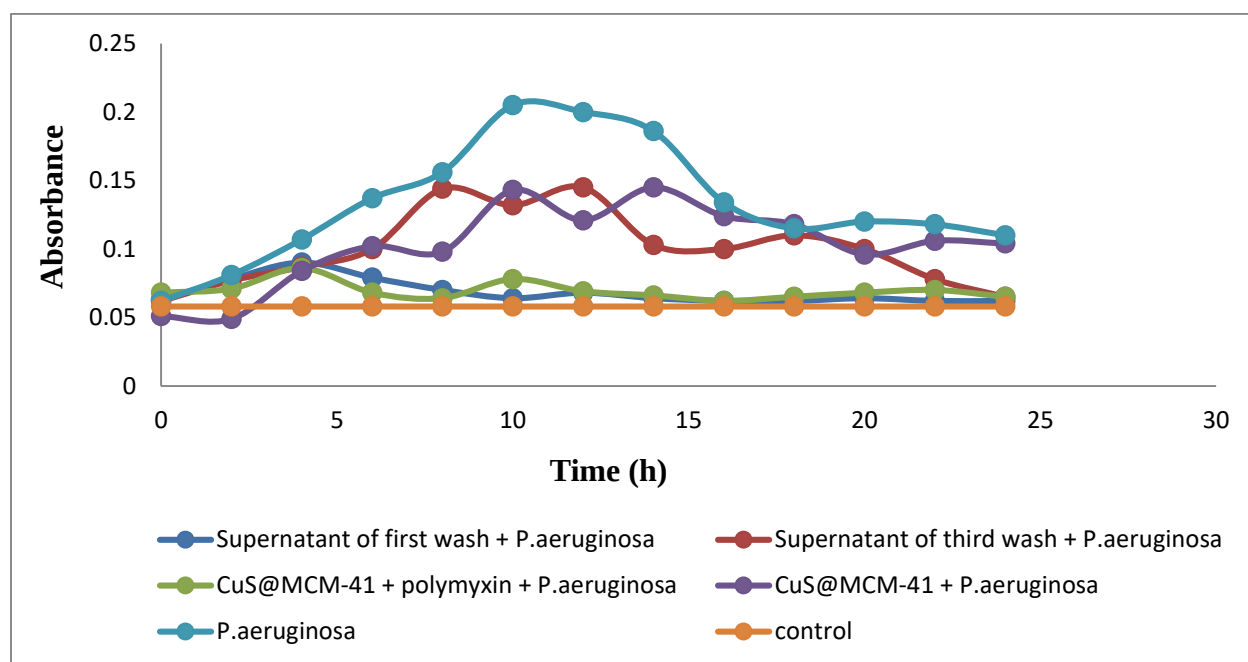
**Fig. S3.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Gen on growth curve of *S. aureus* bacteria



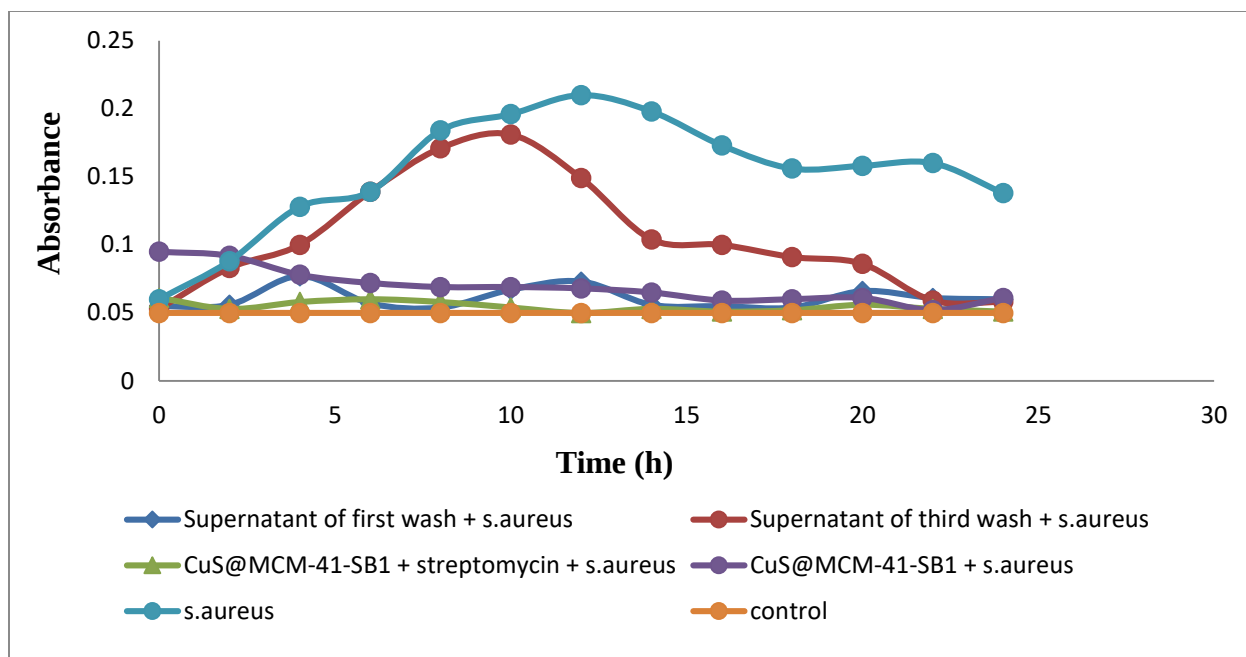
**Fig. S4.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Gen on growth curve of *P. aeruginosa* bacteria



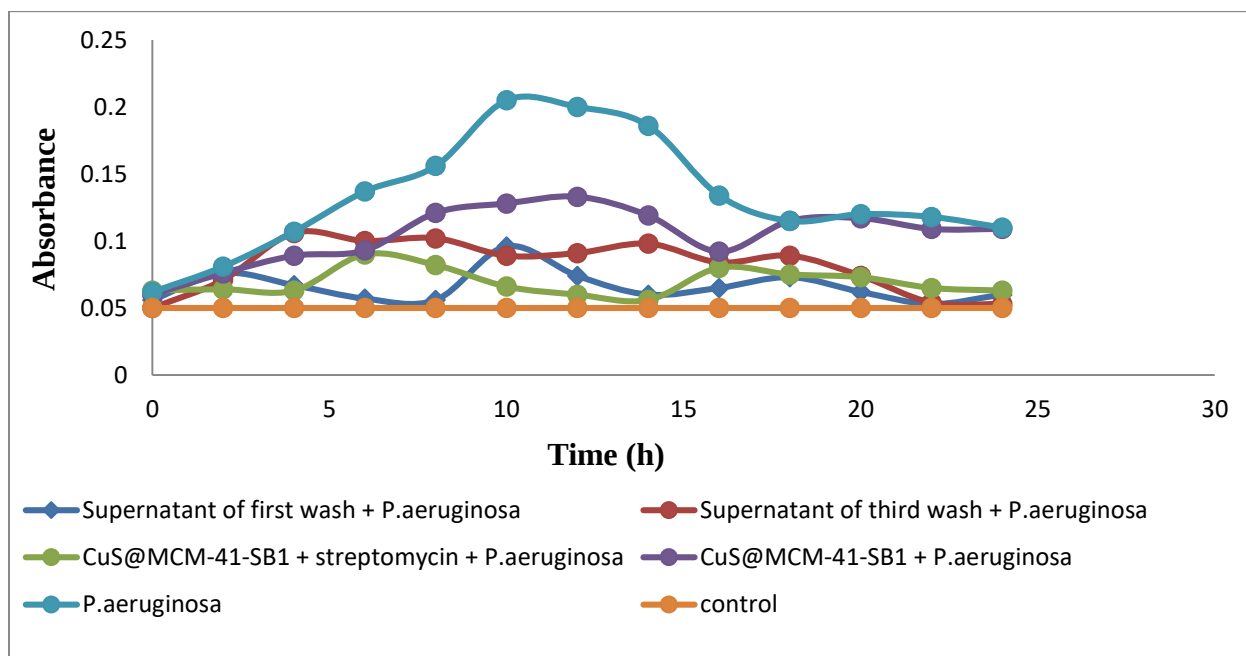
**Fig. S5.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Pol on growth curve of *S. aureus* bacteria



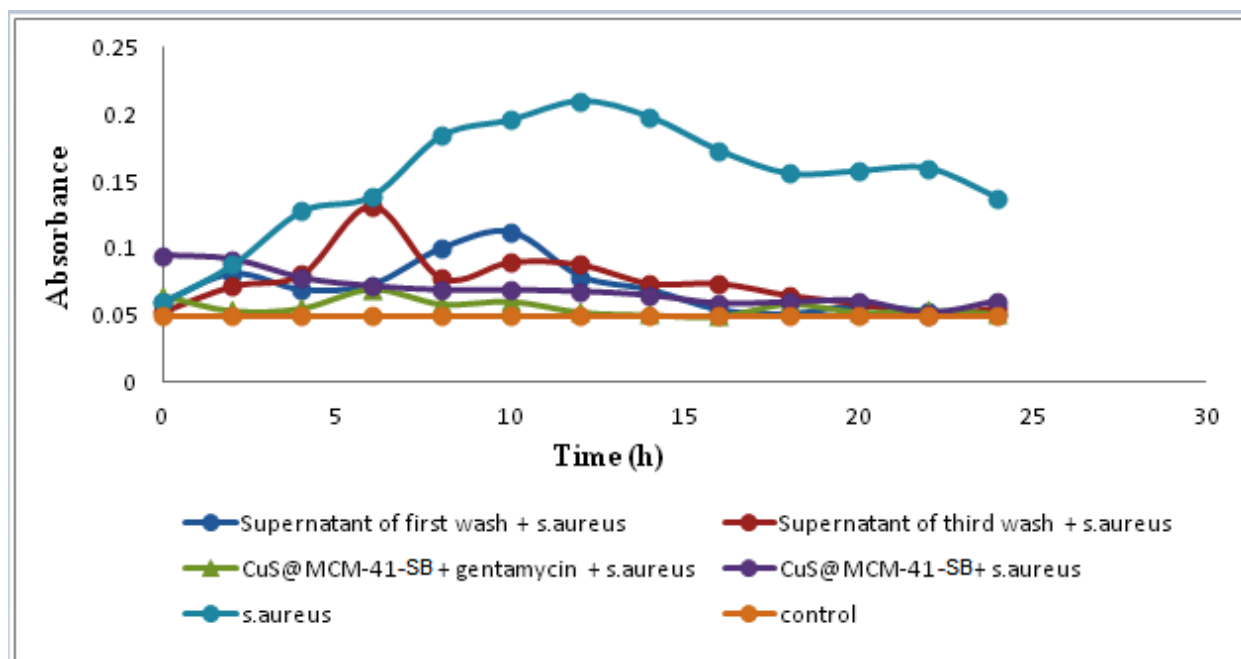
**Fig. S6.** The effect of CuS@MCM-41 and CuS@mSiO<sub>2</sub>-Pol on growth curve of *P. aeruginosa* bacteria



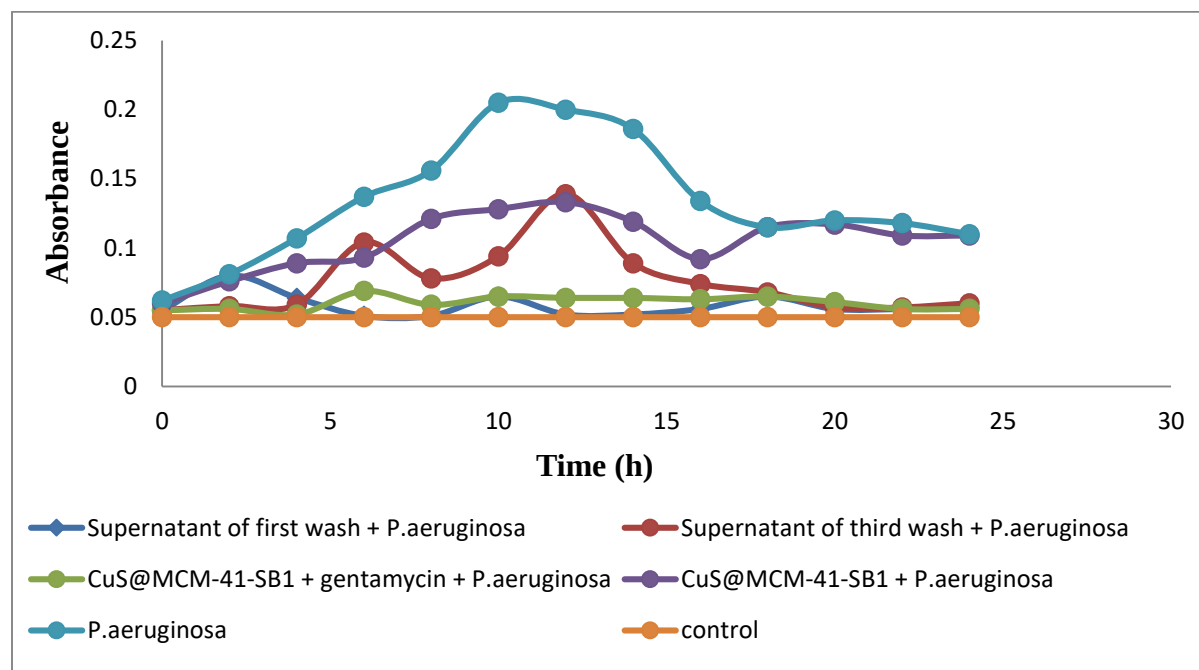
**Fig. S7.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Str on growth curve of *S. aureus* bacteria



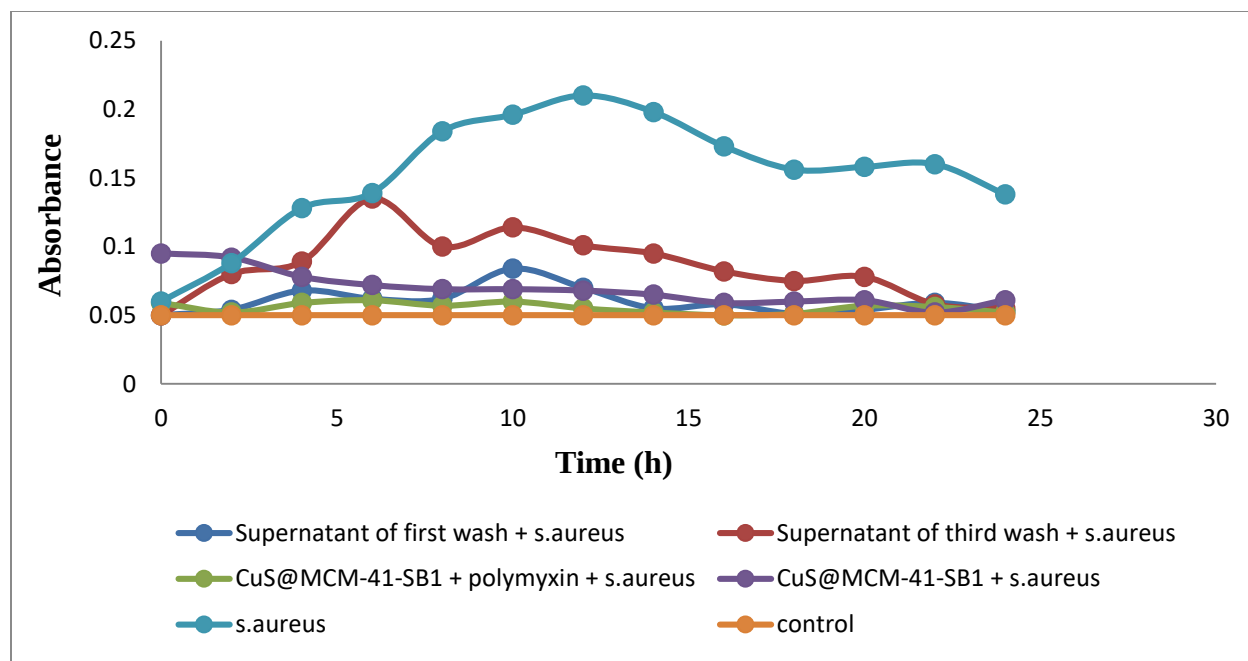
**Fig. S8.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Str on growth curve of *P. aeruginosa* bacteria



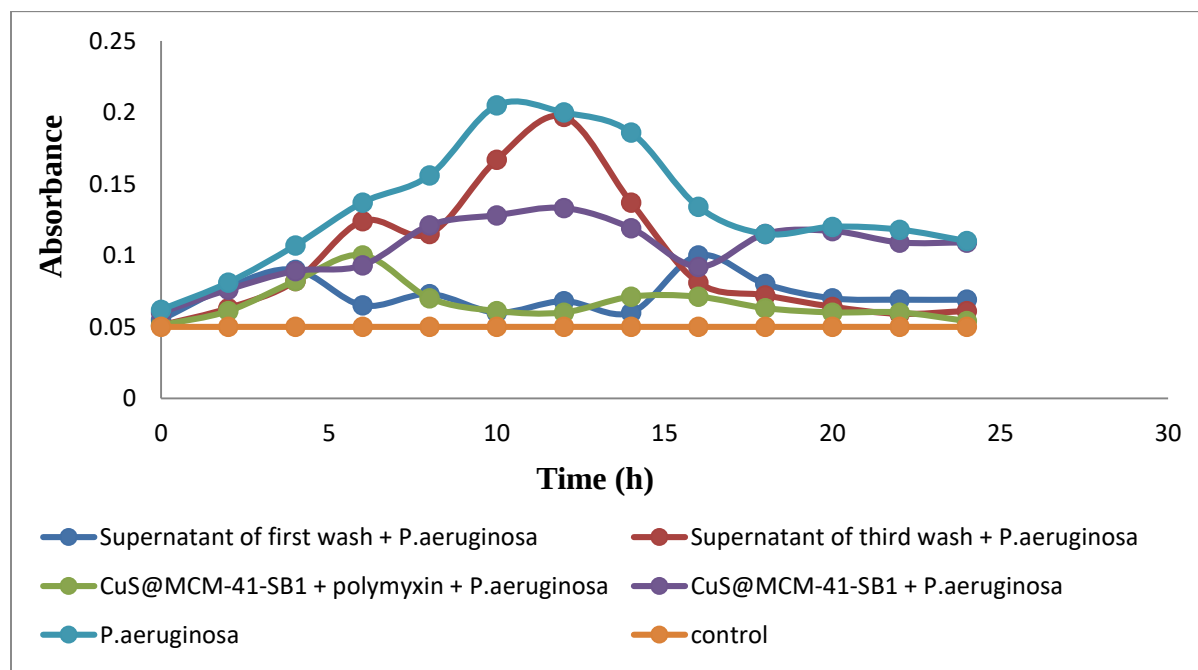
**Fig. S9.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Gen on growth curve of *S. aureus* bacteria



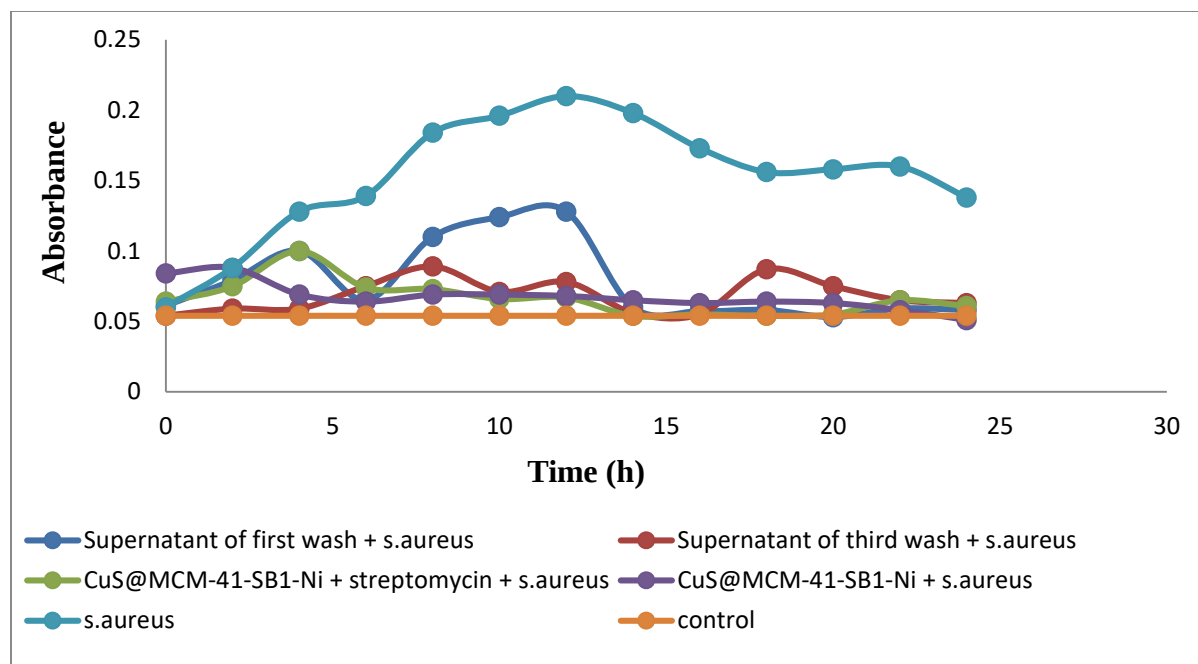
**Fig. S10.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Gen on growth curve of *P. aeruginosa* bacteria



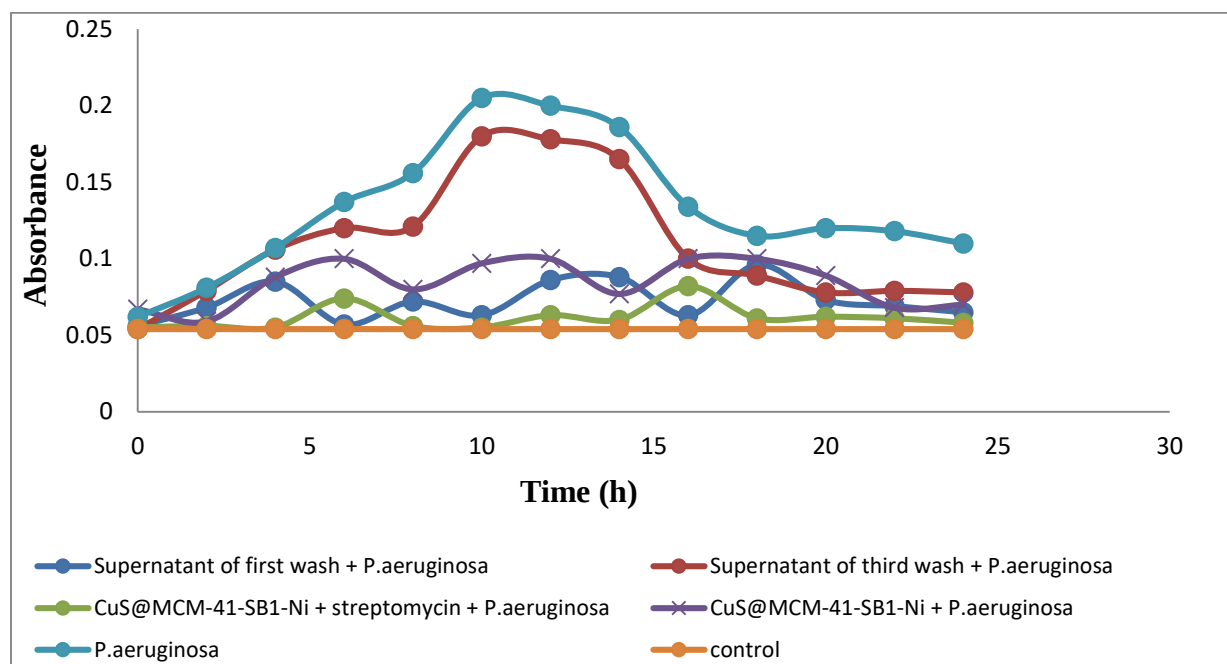
**Fig. S11.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Pol on growth curve of *S. aureus* bacteria



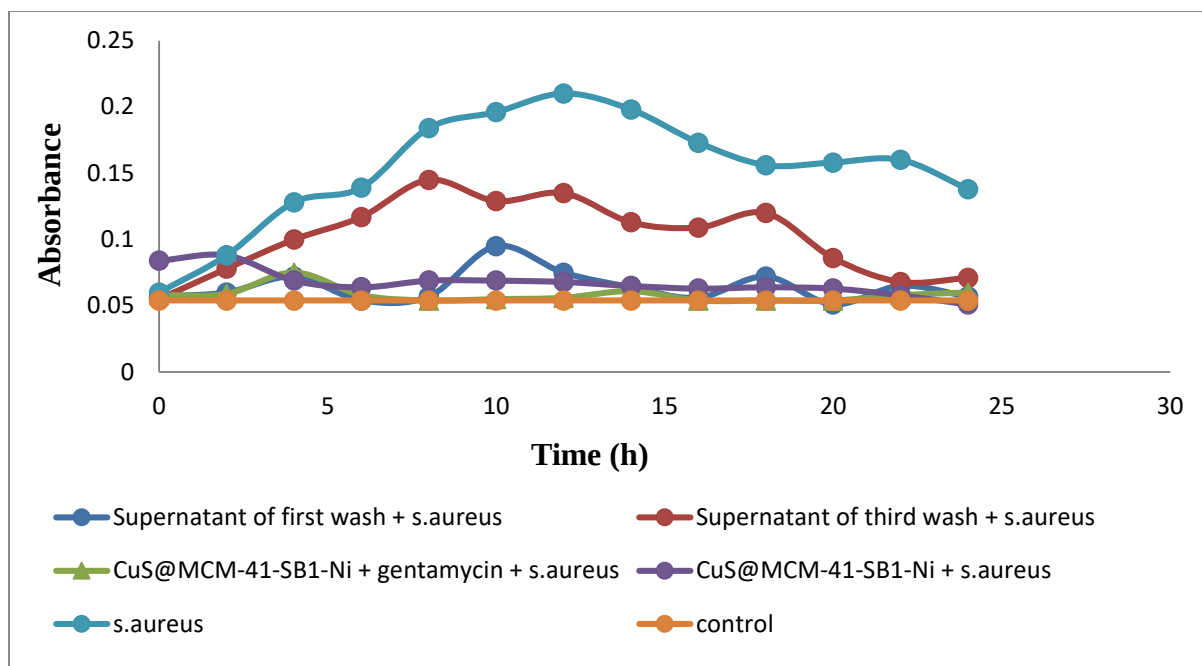
**Fig. S12.** The effect of CuS@MCM-41-SB and CuS@mSiO<sub>2</sub>-SB-Pol on growth curve of *P. aeruginosa* bacteria



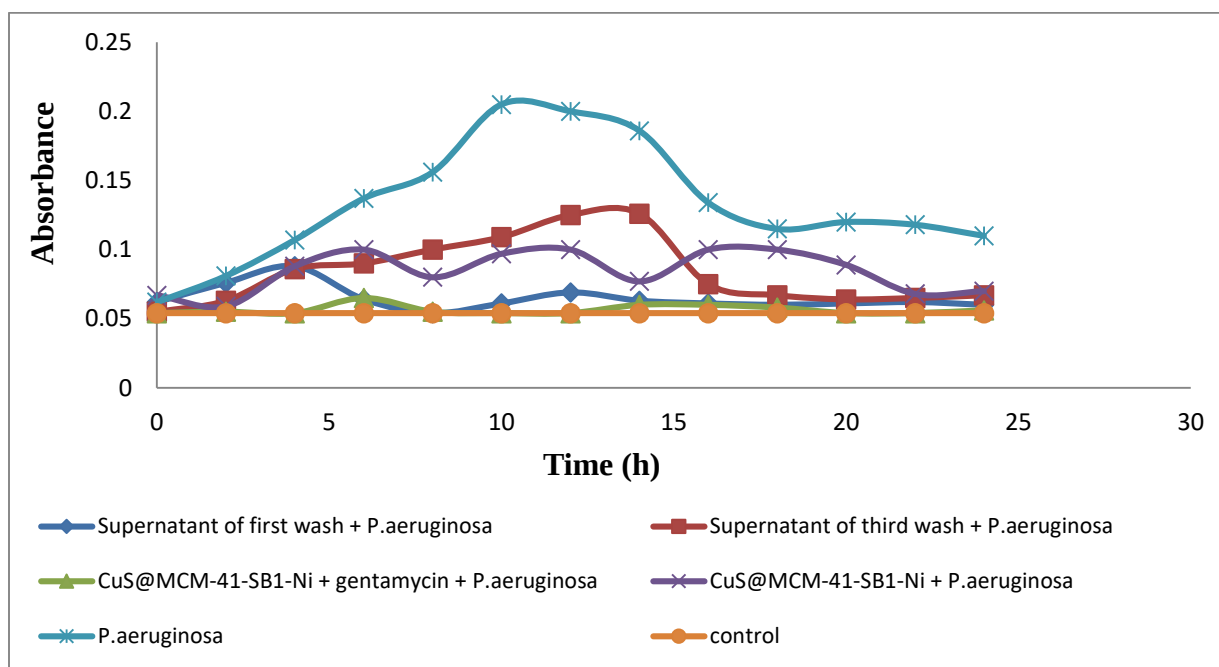
**Fig. S13.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Str on growth curve of *S. aureus* bacteria



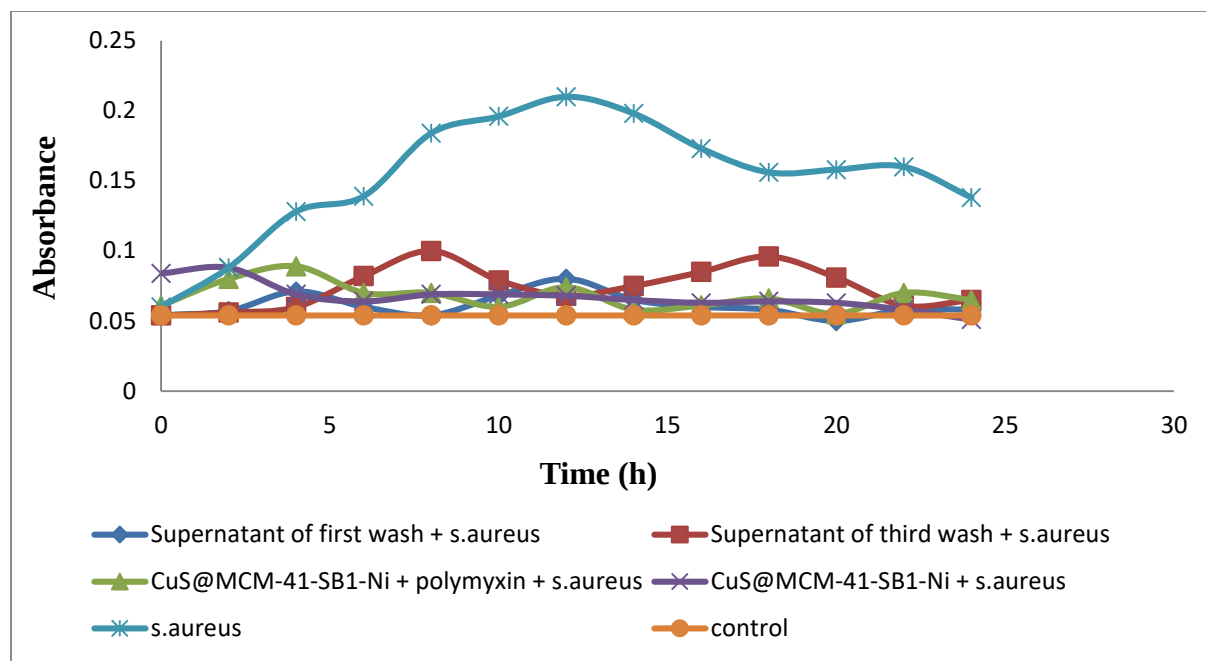
**Fig. S14.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Str on growth curve of *P. aeruginosa* bacteria



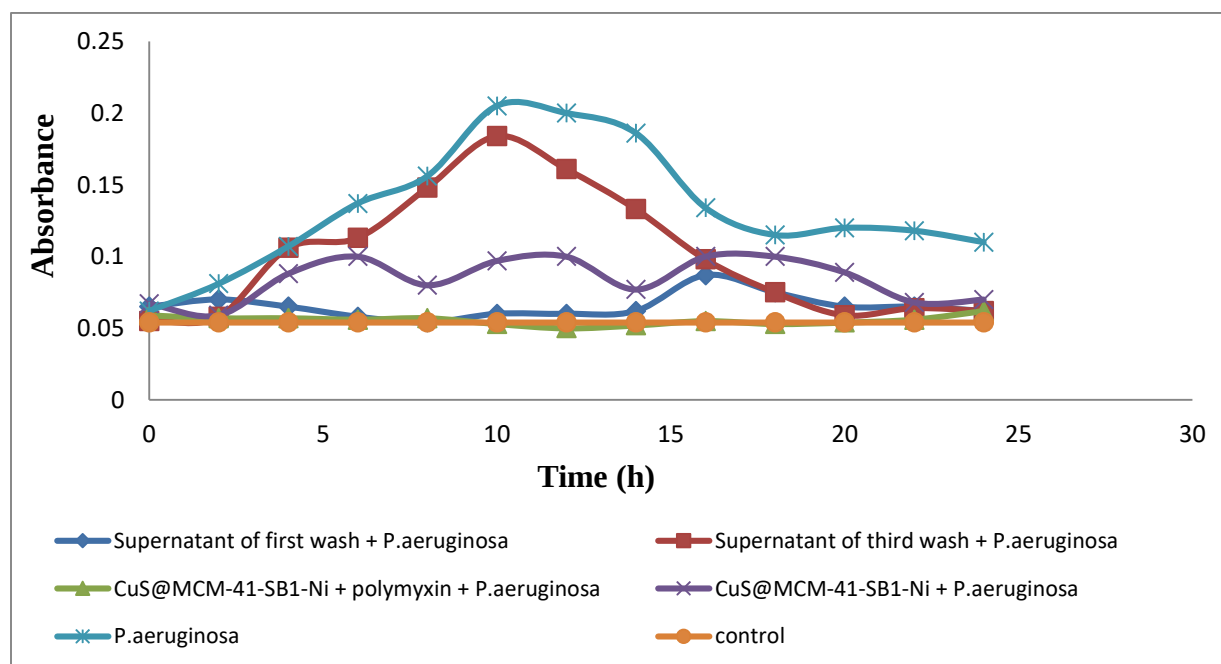
**Fig. S15.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Gen on growth curve of *S. aureus* bacteria



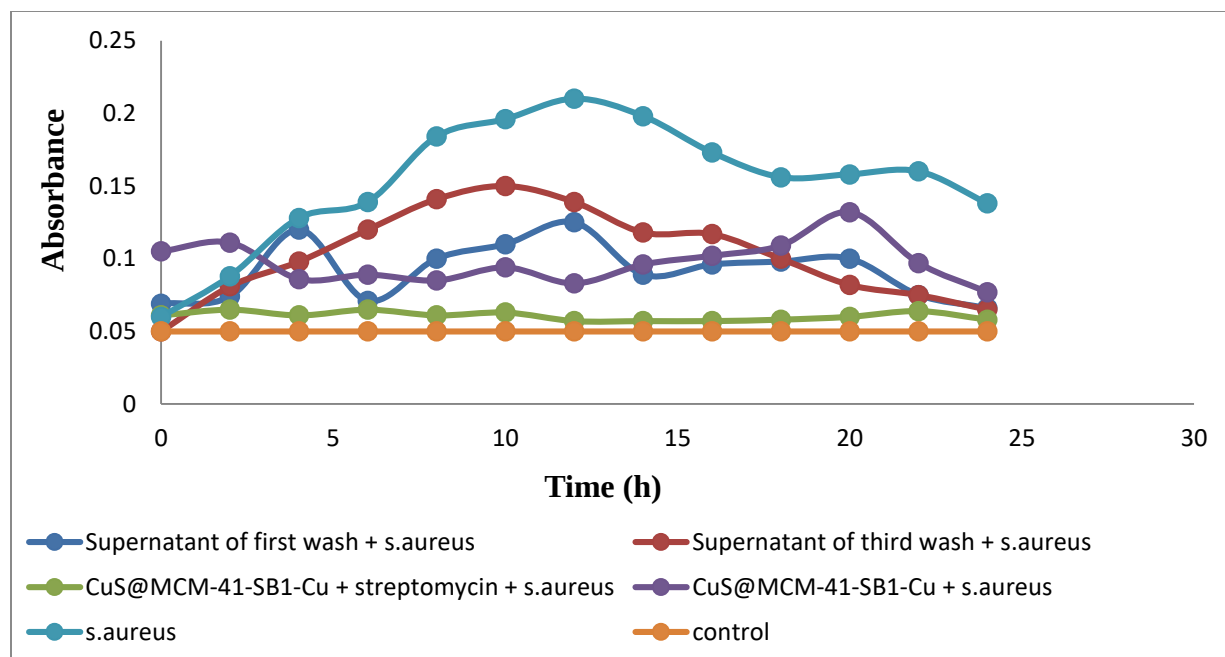
**Fig. S16.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Gen on growth curve of *P. aeruginosa* bacteria



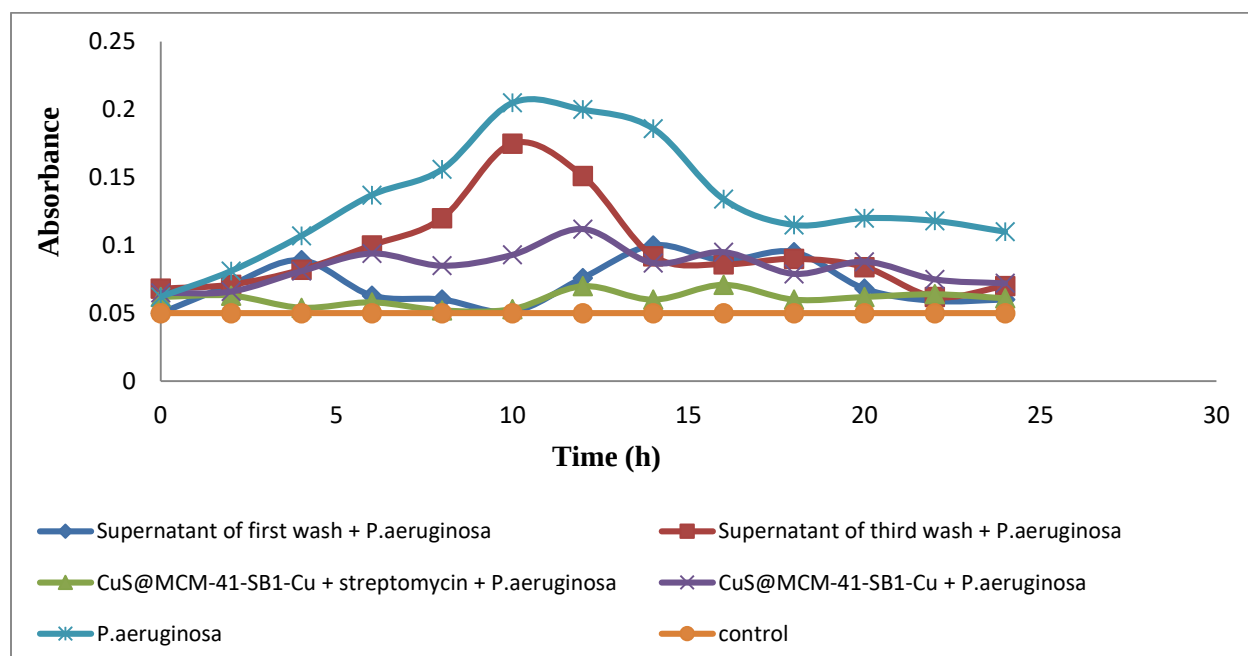
**Fig. S17.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Pol on growth curve of *S. aureus* bacteria



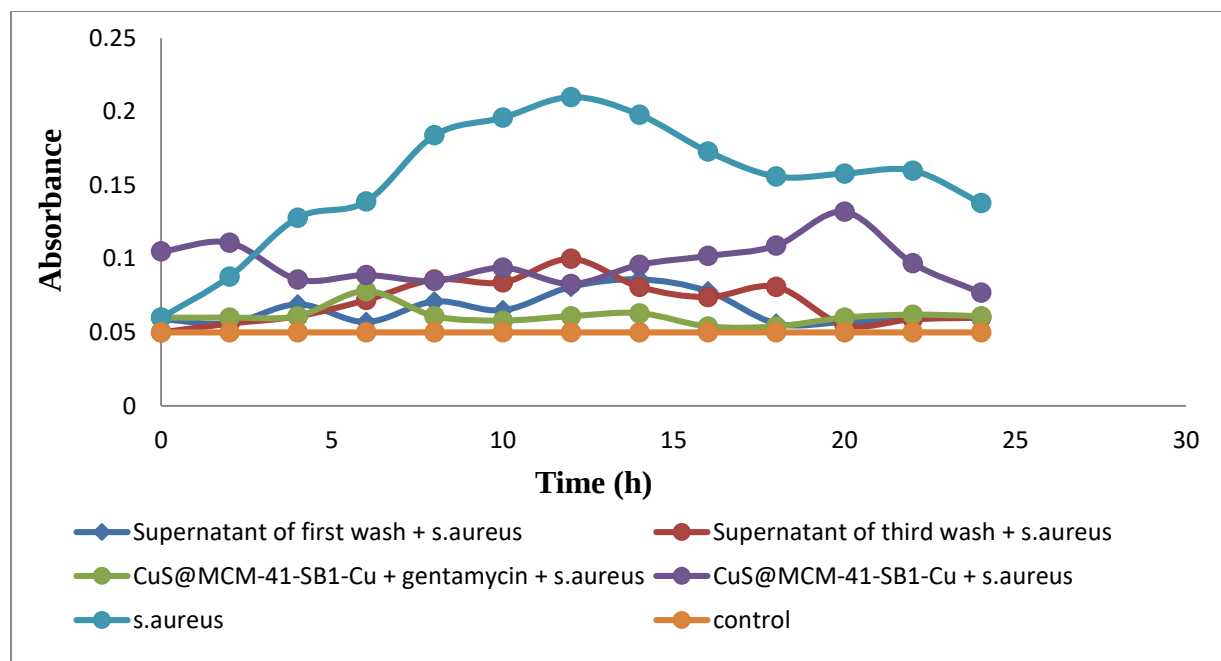
**Fig. S18.** The effect of CuS@MCM-41-SB-Ni and CuS@mSiO<sub>2</sub>-SB-Ni-Pol on growth curve of *P. aeruginosa* bacteria



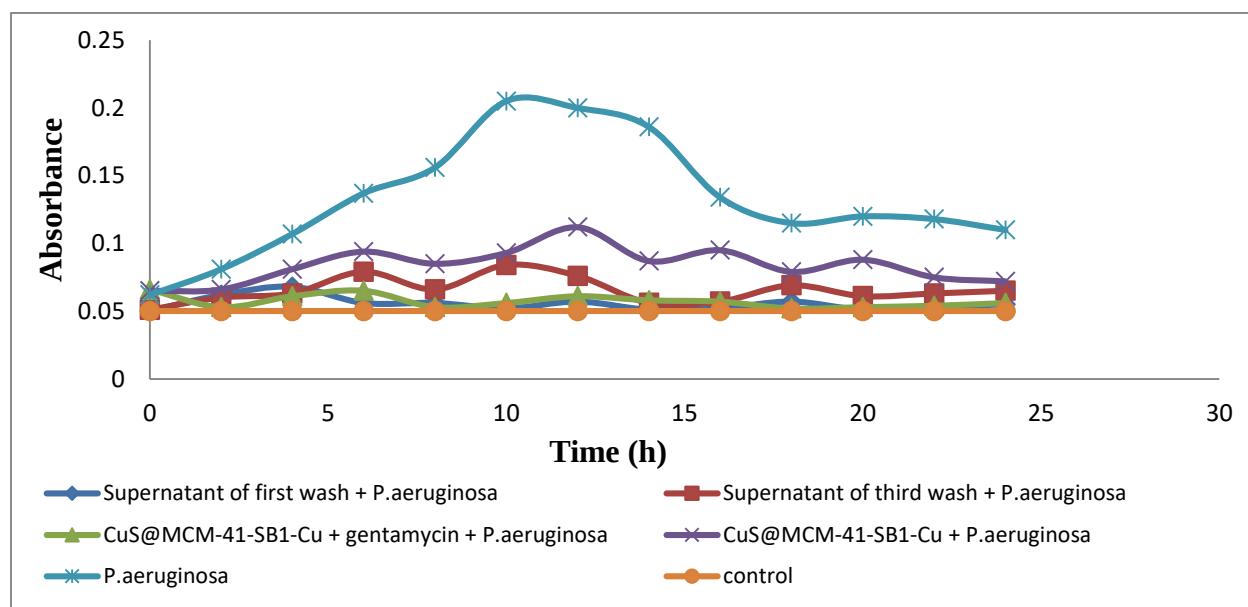
**Fig. S19.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Str on growth curve of *S. aureus* bacteria



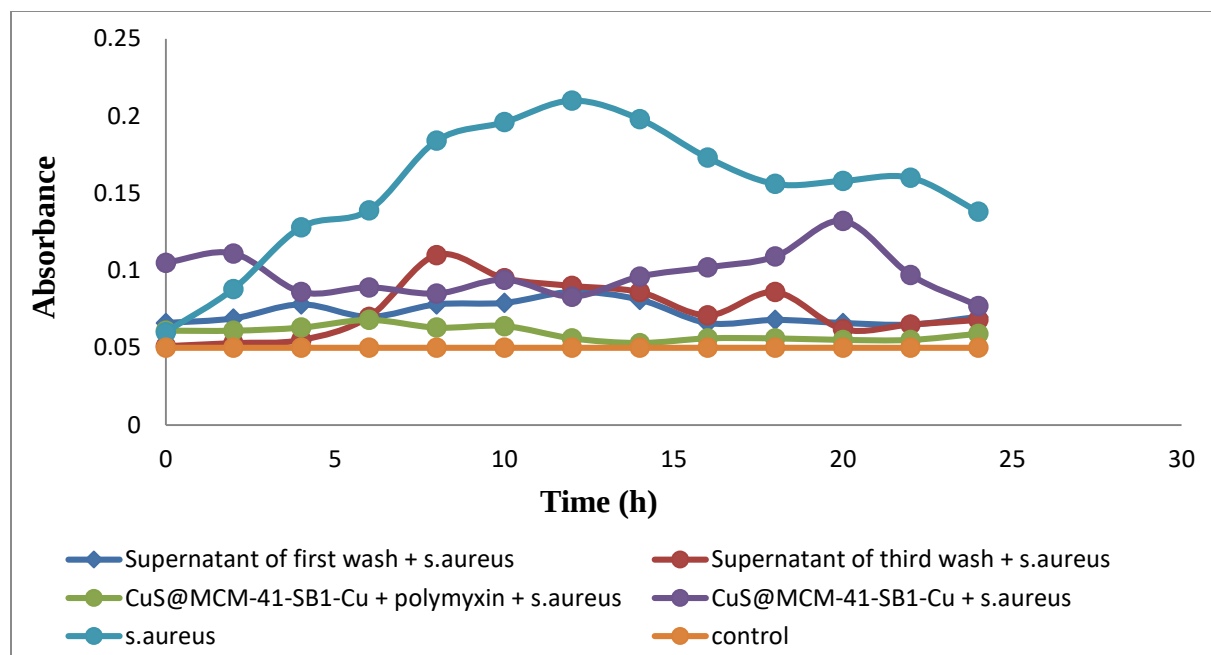
**Fig. S20.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Str on growth curve of *P. aeruginosa* bacteria



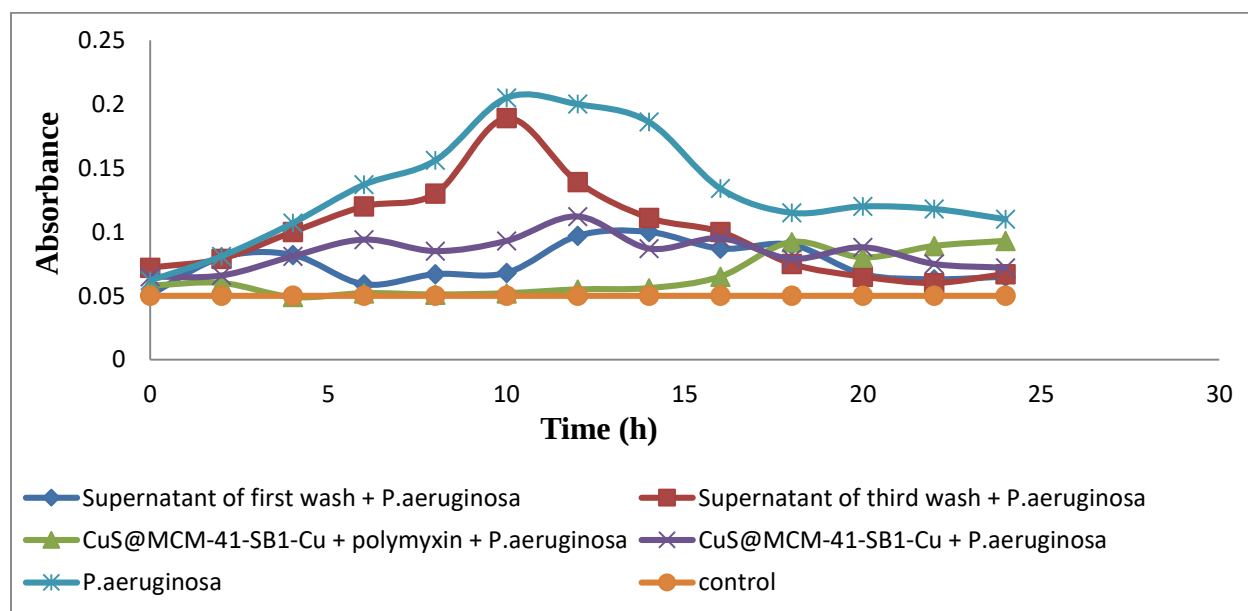
**Fig. S21.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Gen on growth curve of *S. aureus* bacteria



**Fig. S22.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Gen on growth curve of *P. aeruginosa* bacteria



**Fig. S23.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Pol on growth curve of *S. aureus* bacteria



**Fig. S24.** The effect of CuS@MCM-41-SB-Cu and CuS@mSiO<sub>2</sub>-SB-Cu-Pol on growth curve of *P. aeruginosa* bacteria