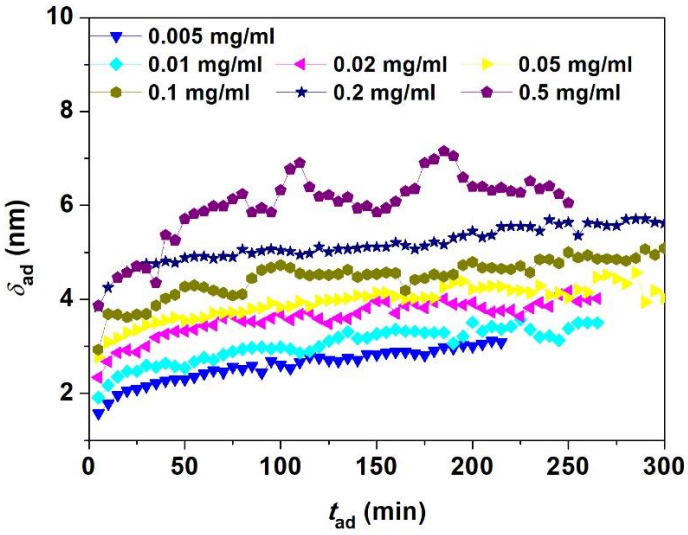
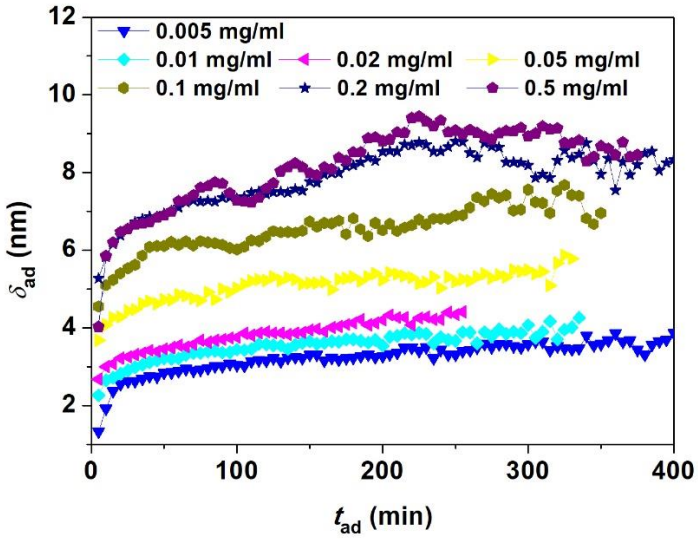
Supporting information

Ellipsometry

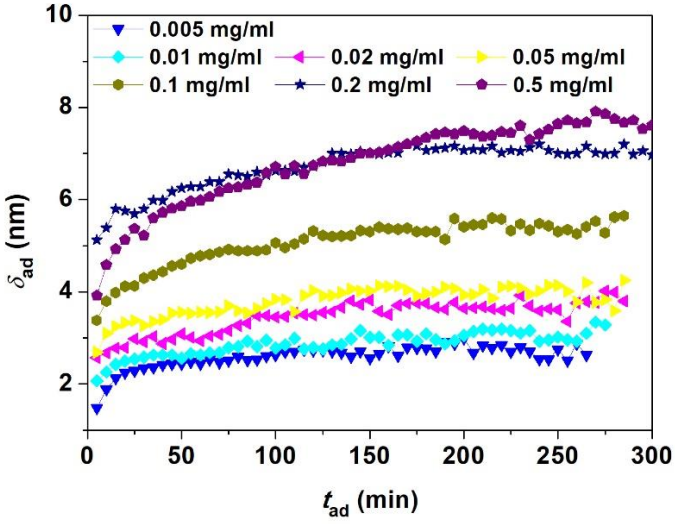
Fig. S1 shows the development of the thickness of the SF adsorbed layers (δ_{ad}) at the air/water interface with the adsorption time (t_{ad}) obtained for different pH values by ellipsometry. It can be seen that δ_{ad} of the SF adsorbed layers at the air/water interface first increases rapidly within the initial 15 min, and then increases more slowly until reaching an equilibrium value within approximately 250 min. Moreover, δ_{ad} of the SF adsorbed layers increases with the SF concentration and increases with t_{ad} more rapidly at high SF concentrations.



(a)



(b)



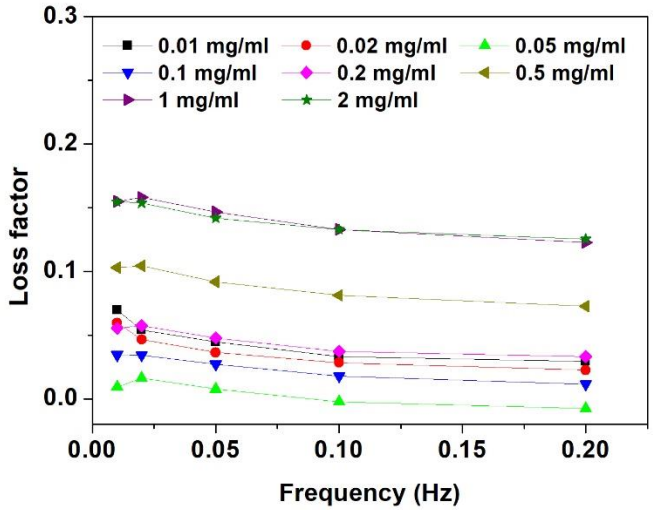
(c)

Fig. S1 Development of the thickness of the SF adsorbed layers at the air/water interface with the adsorption time for different pH values: (a) pH=3; (b) pH=4; (c) pH=7.

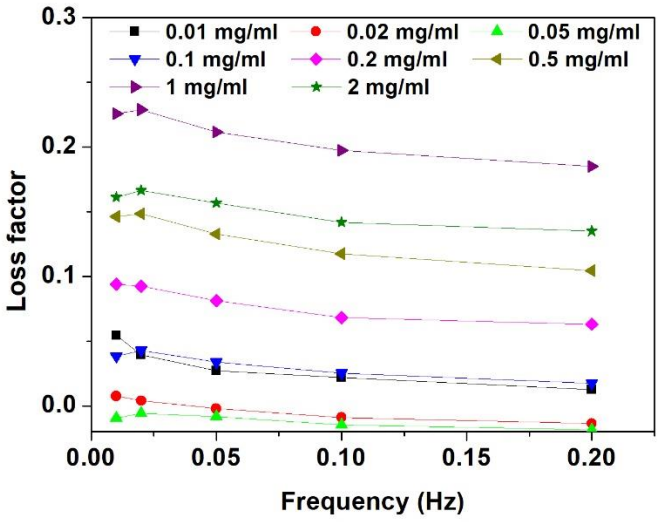
Interfacial dilatational rheology

Fig. S2 presents the change of the loss factor of the SF adsorbed layers at the air/water interface with the frequency for different pH values. It can be found that the loss factor

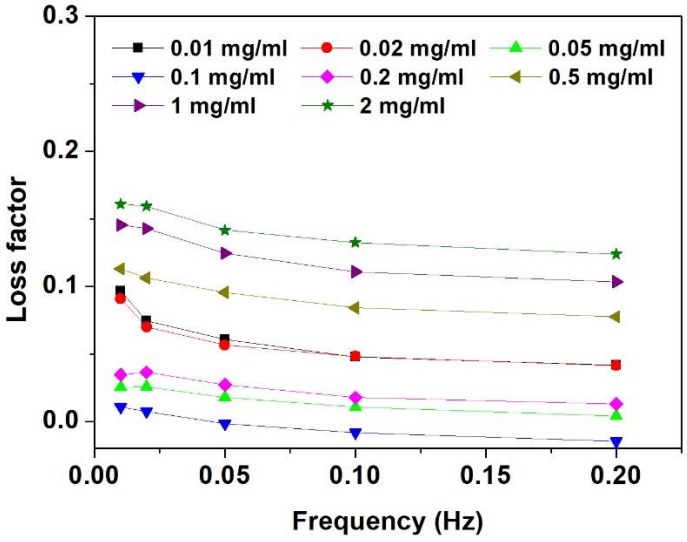
that represents the ratio of the viscous and elastic part is < 0.25 for the adsorbed SF layers formed at different pH and C_{SF}, indicating that the interfacial SF films are more elastic than viscous at all pH levels.



(a)



(b)



(c)

Fig. S2 Change of the loss factor of the SF adsorbed layers at the air/water interface with the frequency for different pH values: (a) pH=3; (b) pH=4; (c) pH=7.