

## Supporting Information

### Interactions between proteins and membrane surface in multiscale modeling of organic fouling

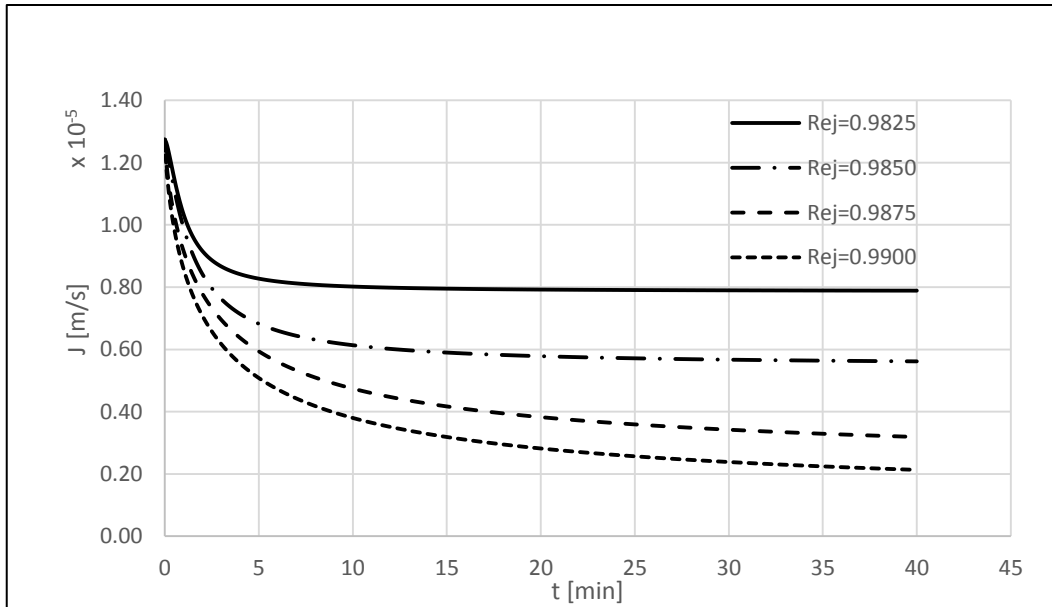
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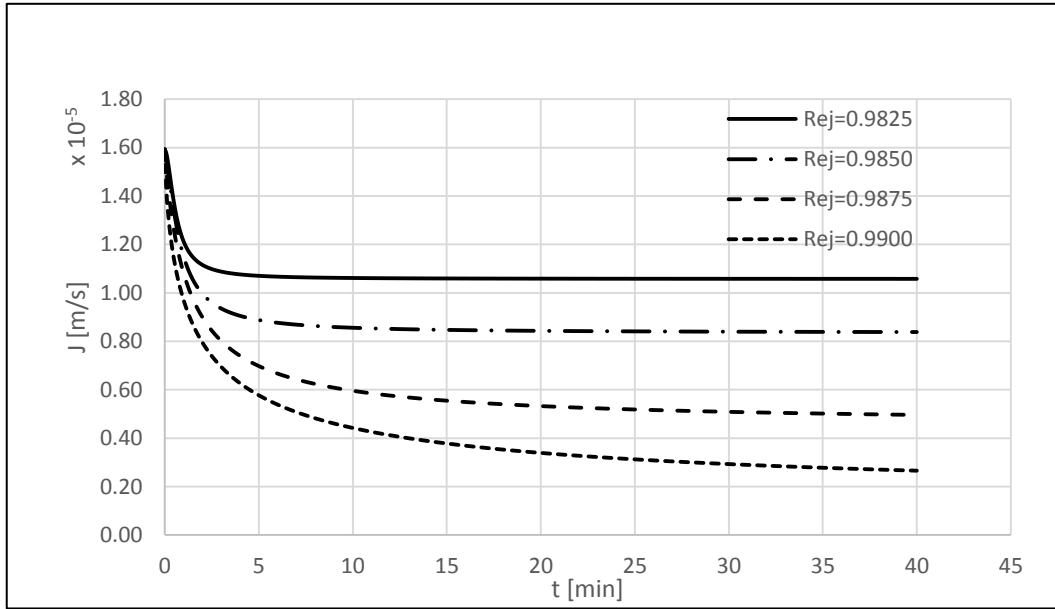
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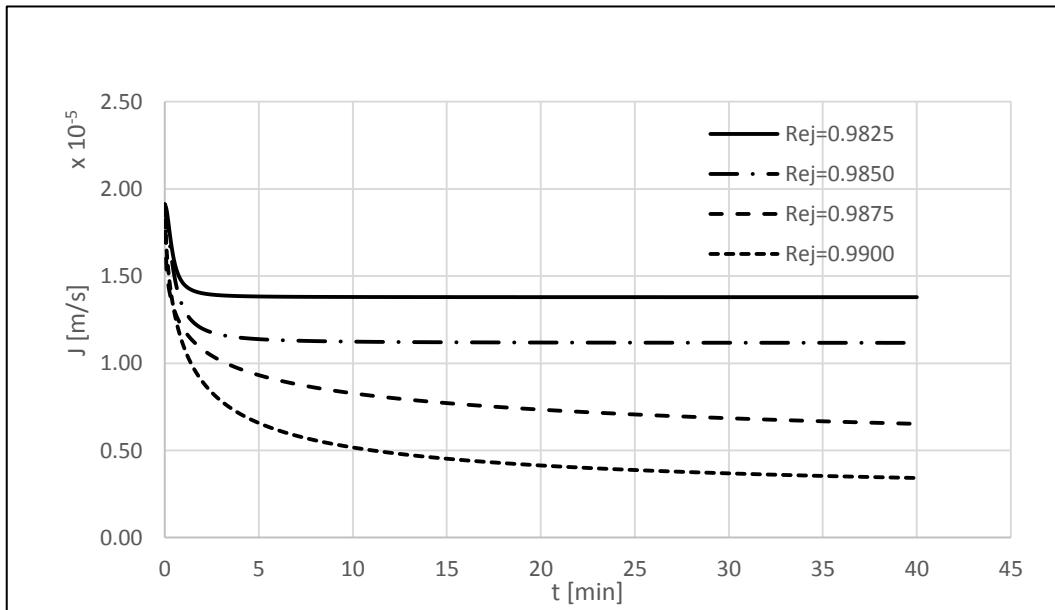
Permeate fluxes,  $J(t)$ , at different  $Rej$  were showed in the following Figures for TMP= 2 bar, 2.5 bar and 3 bar, respectively.



**Figure S1** Permeate flux vs simulation time at TMP= 2 bar.

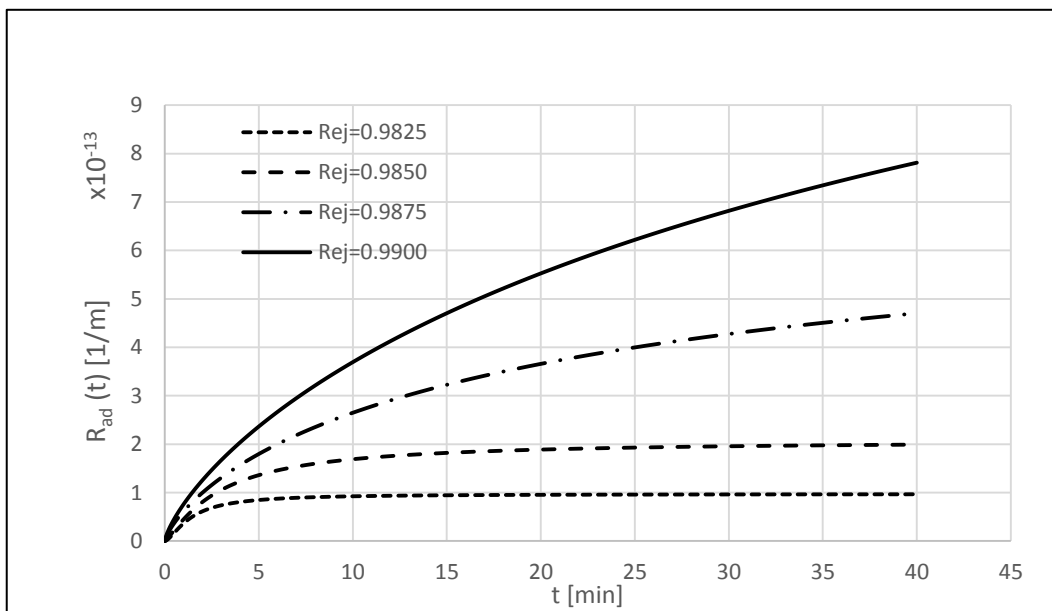


**Figure S2** Permeate flux vs simulation time at TMP= 2.5 bar.

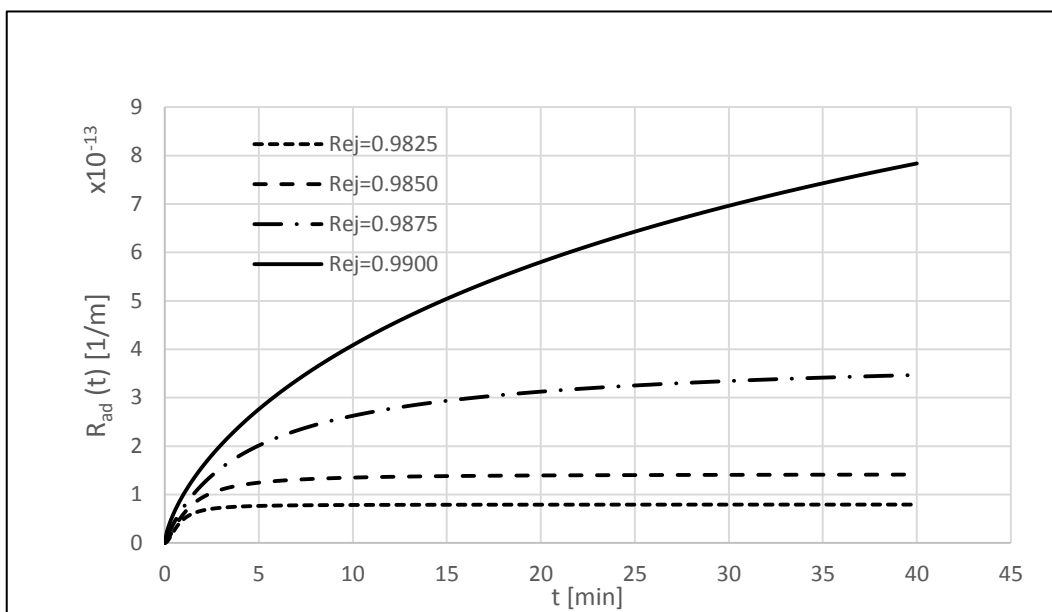


**Figure S3** Permeate flux vs simulation time at TMP= 3 bar.

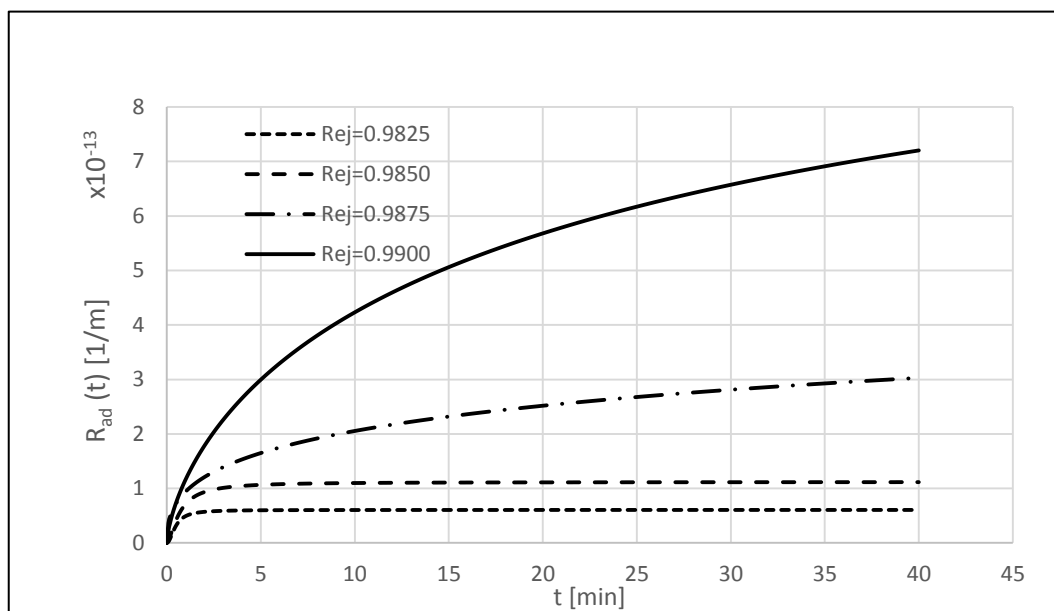
Additional resistances,  $R_{ad}(t)$ , at different  $Rej$  were showed in the following Figures for TMP= 2 bar, 2.5 bar and 3 bar, respectively.



**Figure S4.** Additional resistance vs simulation time at TMP = 2 bar

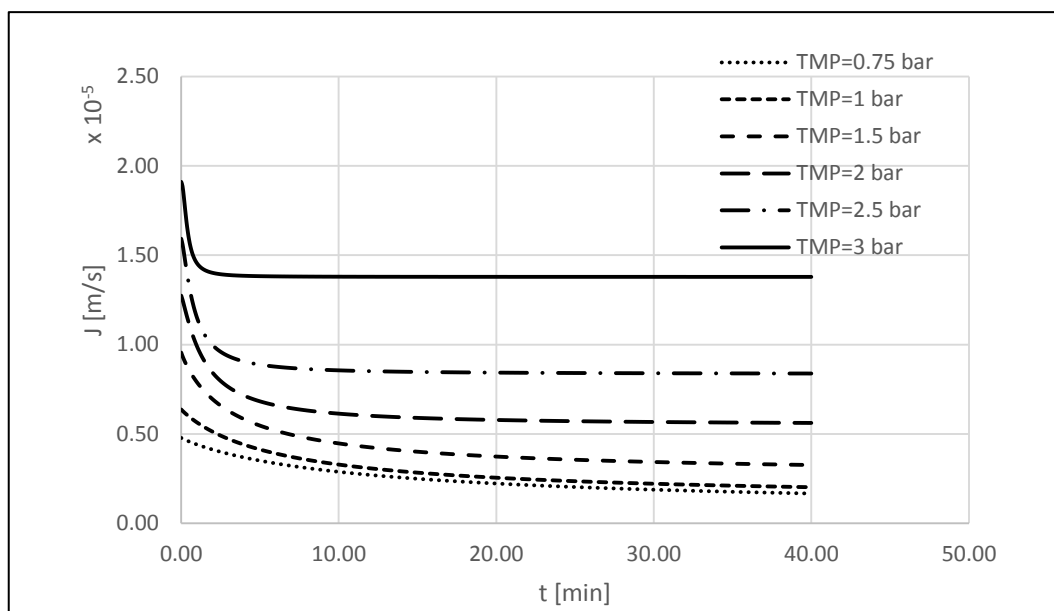


**Figure S5.** Additional resistance vs simulation time at TMP = 2.5 bar

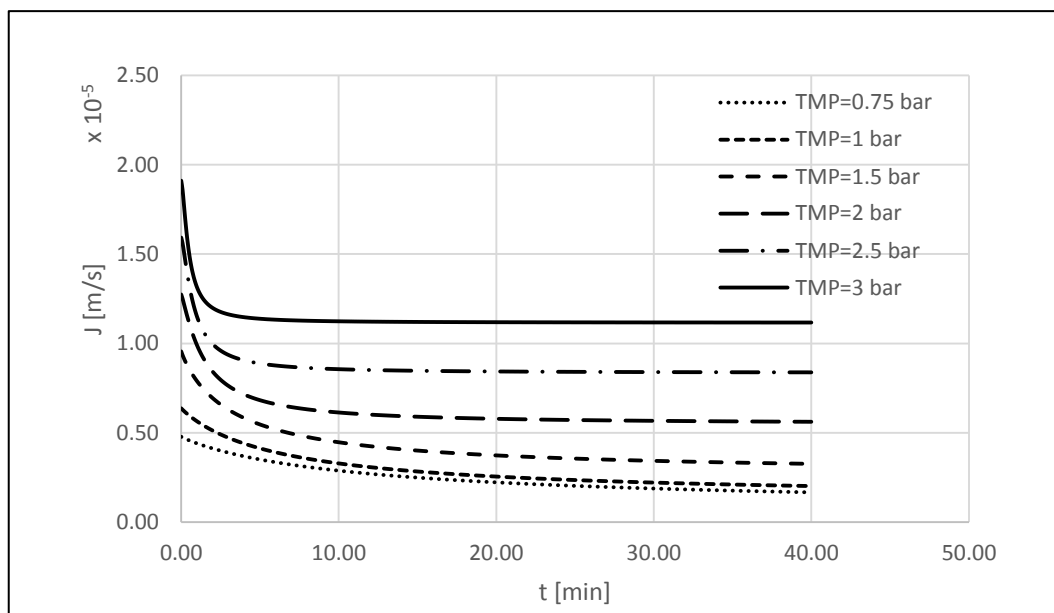


**Figure S6** Additional resistance vs simulation time at TMP = 3 bar

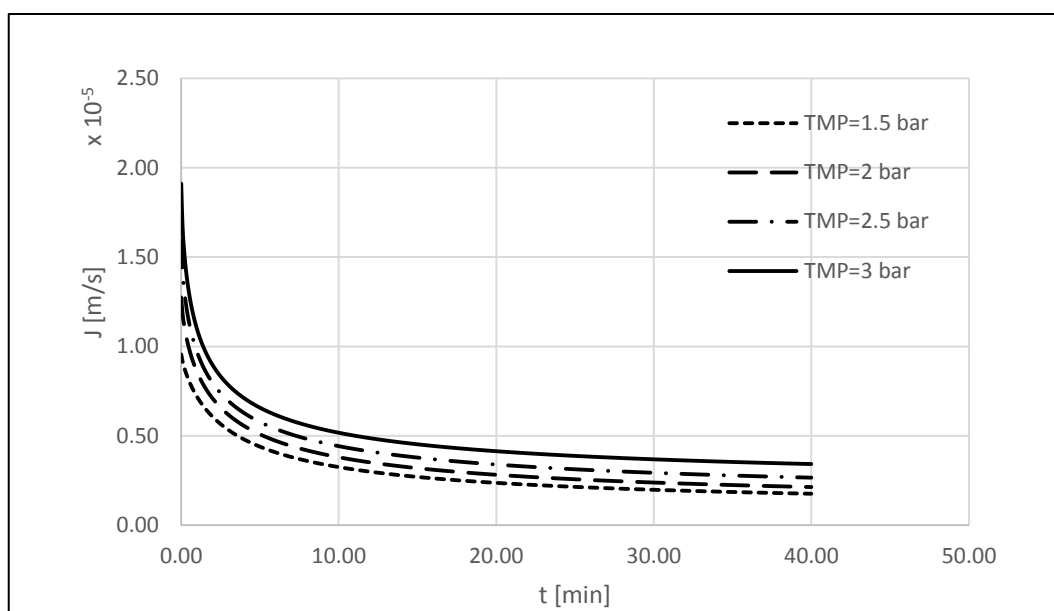
Permeate fluxes decay for  $Rej = 0.9825$ ,  $0.985$  and  $0.99$ , respectively, were showed in the following Figures.



**Figure S7** Permeate flux vs simulation time at  $Rej = 0.9825$ .



**Figure S8** Permeate flux vs simulation time at  $Re_j = 0.985$ .



**Figure S9** Permeate flux vs simulation time at  $Re_j = 0.99$ .