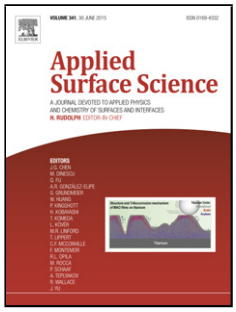

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Polyethylenimine surface layer for enhanced virus immobilization on cellulose.

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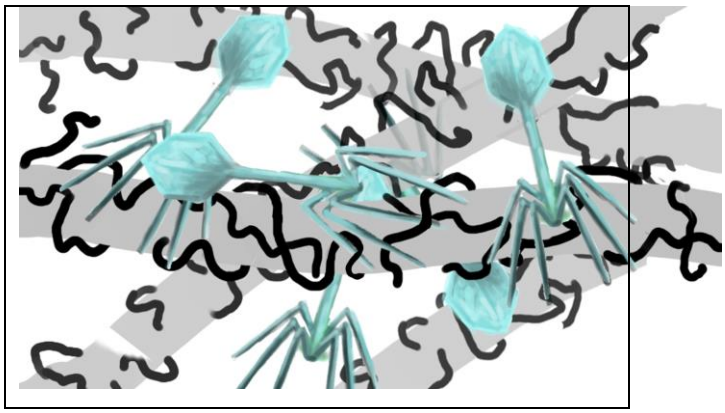
Graphical Abstract:



Highlights:

> In this study thin regenerated cellulose films were prepared by hydrolysis of cellulose acetate.

> Polyethylenimine and virus adsorption onto the films was studied by QCM-D.

> A regular growth of the PEI films was observed upon successive increases of the PEI concentration.

> The adsorption of T4D bacteriophages are 15-fold more efficient onto the PEI-treated film.

> PEI-functionalized cellulose-based highly improved the airborne virus affinity.