S1 Method: DLVO modeling details. DLVO forces were calculated using adapted Wieseand-Healy expression for a sphere–flat plate system [1, 2]. Following equations are used to make the computation:

$$V_{EDL} = 2\pi a n_{\infty} KT \frac{{\Phi_p}^2 + {\Phi_e}^2}{2} [\left(\frac{2\Phi_p \Phi_c}{{\Phi_p}^2 + {\Phi_c}^2} * \ln \frac{1+\exp(-\kappa h)}{1-\exp(-\kappa h)}\right) + \ln(1 - \exp(-2\kappa h))]$$

$$\Phi_i = \frac{Ze\Psi_i}{4KT}$$

$$\kappa = (\frac{e^2 \sum n_{i,\infty} {z_i}^2}{\epsilon\epsilon_0 KT})^{0.5}$$

$$V_{VdW} = -\frac{A_{123}}{6}[\frac{a}{h} + \frac{a}{h+2a} + \ln(\frac{h}{h+2a})]$$

$$V_{Tot} = V_{EDL} + V_{VdW}$$

Where,

V_{EDL}= Electrical double layer repulsive energy

V_{VdW}= Van-der-Waals attractive energy

V_{Tot}= DLVO energy barrier

a= Radii of *E. coli* cells [assumed to be 0.5 µm [3]

e= Negative charge of an electron = $1.6*10^{-19}$ C

$n_{i,\infty}$= Equivalent concentration of electrolyte i

z_i= Valence of electrolyte i

n_{∞}= Bulk electrolyte density of the stormwater= 4.7 mM equivalent (using the recipe of the synthetic stormwater)

Z = 1 (using the recipe of the synthetic stormwater for a 4.7 mM ionic strength)

K= Boltzmann constant = 1.38×10^{-23} m^2 kg s^{-2} K^{-1}

T= Temperature= 298 K

Ψ_p=Zeta potential of porous media particles =20-50 mV [4, 5]

Ψ_c= Zeta potential of *E. coli* cells =36 mV [2]

ϵ_0 = Permittivity of vacuum = $8.854*10^{-12}$ F/m

ϵ=Relative permittivity of water = 80

h = Separation distance = 1-30 nm (dependent variable)

A_{123}= Hamaker constant=$6.6x10^{-21}$ J

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