Supplementary information for:

Effect of surface physicochemical properties on flocculation behavior of *Bacillus licheniformis*

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Figure S1. Variations of potential energy between *B. licheniformis* at different ionic strength calculated using the DLVO theory.



Figure S2. Contributions of V_d and V_e to the total interaction energy of *B. licheniformis* at different pH values (resuspended in 0.3 M NaCl solution).



Figure S3. Temporal variations of the cell dry weight of *B. licheniformis* during the bioflocculant producing process.



Figure S4. Comparison of the calculated maximum energy barriers based on the classical (a) and extended (b) DLVO plots for the *B. Licheniformis* suspension at different cultivation times.



Figure S5. Plots of acid-base interactions between *B. Licheniformis* at different cultivation times.



Figure S6. Compositional changes of the cell wall as a function of time: blue squares represent peptide; red triangles represent sugar; green circles represent lipid.



Figure S7. Variations of *B. licheniformis* cell surface hydropobicity as a function of its surface composition: polysaccharide and protein

Probe liquids	Surface tension (mJ/m ²)				
	γ	$\gamma^{\rm LW}$	γ^{AB}	γ^+	γ-
Water	72.8	21.8	51	25.5	25.5
Formamide	58.0	39.0	19.0	2.28	39.6
α-Bromonaphthalene	44.4	44.4	0	0	0

 Table S1. Surface tensions of different probe liquids.