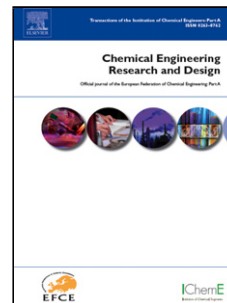


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Title: Impact of operating parameters on values of a volumetric mass transfer coefficient in a single-use bioreactor with wave-induced agitation

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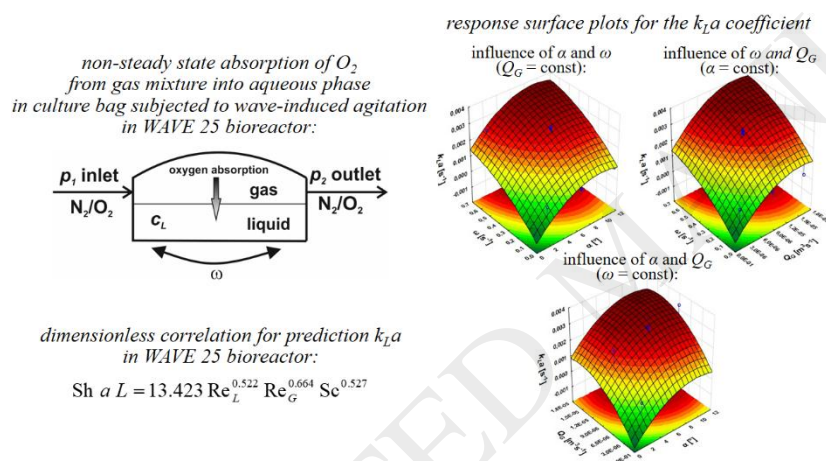
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Graphical abstract



Highlights

- mass transfer in single-use WAVETM 25 bioreactor was investigated in details
- relevant vs. irrelevant operating parameters influencing on $k_L a$ were screened with DoE
- operating parameters impacting mass transfer in WAVETM25 were identified
- new and original form of Re number for wave-induced mixing of liquids was defined
- correlations to estimate the $k_L a$ coefficient values in the WAVETM 25 were proposed

Abstract

The knowledge of a volumetric liquid-side mass transfer coefficient ($k_L a$) characterizing the oxygen transfer in bioreactor working at defined operating parameters, is a fundamental principle for establishing the aeration strategy for aerobic bioprocesses. The design of experiments (DoE)

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