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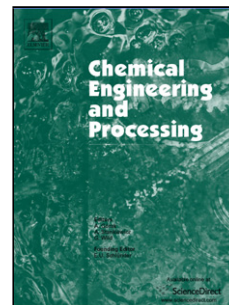
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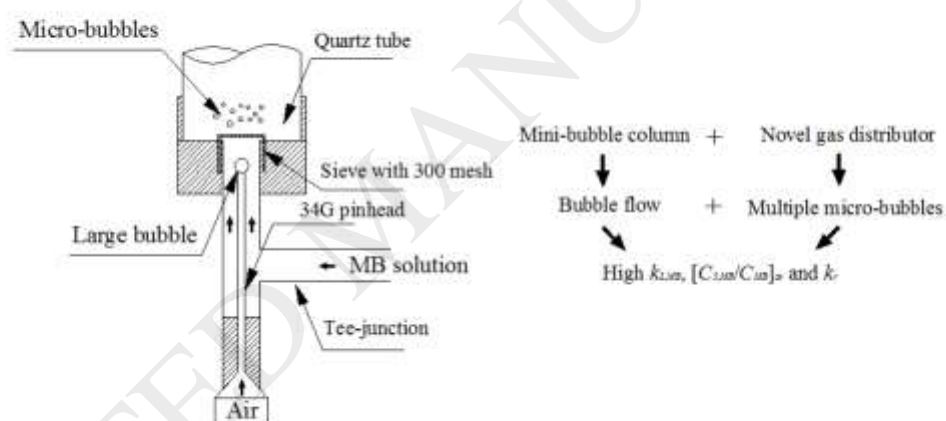
## Experiment study and modeling of novel mini-bubble column photocatalytic reactor with multiple micro-bubbles

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### GRAPHICAL ABSTRACT



### Highlights

1. Novel gas distributor can disperse a large single bubble to multiple micro-bubbles.
2. Discretization idea was introduced to build the radiation model.
3. Surface reaction kinetics model was built and fitted to obtain parameters  $k_r$ ,  $k_{vis}$  and  $K_1$ .
4. Multiple micro-bubbles play an important role in improving  $k_{L,MB}$ ,  $[C_{s,MB}/C_{MB}]_{av}$  and  $k_r$ .

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