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# Analysis of mass transfer equations during solid-liquid extraction and its application for vanilla extraction kinetics modeling

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## Highlights

- A mathematical analysis of solid-liquid extraction process governing mass transfer equations was performed.
- Analytical solution in dimensionless form of the mass transfer equations was obtained.
- Experimental kinetics of vanilla-(60% w/w ethanol-water) extraction system were obtained.
- Apparent equilibrium constant and diffusivities of the extraction system were calculated.
- Theoretical equations predicts the experimental extraction kinetics.

Abstract