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Distillation Design and Optimization of Quaternary Azeotropic Mixtures for Waste Solvent Recovery

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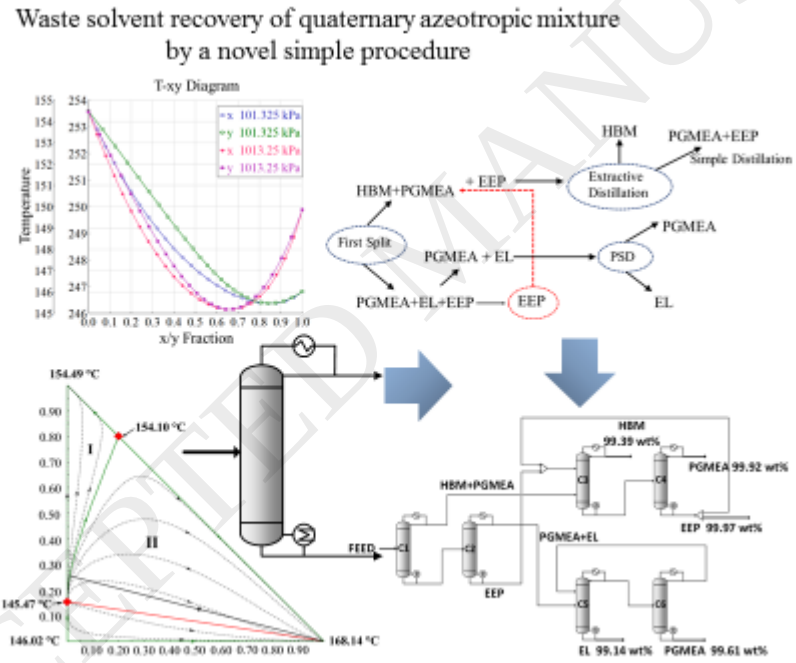
Graphical abstract



Highlights

- Effective waste solvent recovery from semiconductor and display industries.
- Quaternary azeotropic mixture of methyl 2-hydroxybutyrate, propylene glycol monomethyl ether acetate, ethyl lactate, and ethyl-3-ethoxy propionate.
- Simple procedure for distillation design by exploiting a shortcut method
- Novel graphical design method for complex separation of column paths.