

Accepted Manuscript

Title: Design and Optimization of the Levulinic Acid Recovery Process from Lignocellulosic Biomass

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PII: S0263-8762(15)00365-2
DOI: <http://dx.doi.org/doi:10.1016/j.cherd.2015.09.013>
Reference: CHERD 2024



To appear in:

Received date: 18-6-2015
Revised date: 31-8-2015
Accepted date: 17-9-2015

Please cite this article as: Nhien, L.C., Long, N.V.D., Lee, M., Design and Optimization of the Levulinic Acid Recovery Process from Lignocellulosic Biomass, *Chemical Engineering Research and Design* (2015), <http://dx.doi.org/10.1016/j.cherd.2015.09.013>

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1 Highlights

- 2 • An innovative TDWC-D was proposed to separate a heterogeneous azeotrope mixture.
- 3 • The TAC could be reduced by 28.1% by the innovative TDWC-D.
- 4 • Many benefits could be achieved by changing process sequence structure.
- 5 • A compact and energy efficient LA production process is proposed.
- 6 • Large potential for commercial LA production from lignocellulosic biomass

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8 **Design and Optimization of the Levulinic Acid Recovery Process**

9 **from Lignocellulosic Biomass**

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14 **Running title: Design and Optimization of the Levulinic Acid Recovery Process from**

15 **Lignocellulosic Biomass**

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17 *Submitted to Chemical Engineering Research and Design Journal*

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