Conceptual Process Design and Integration of NGL Processes
S.-K. Yoon, J.-K. Kim*
Department of Chemical Engineering, Hanyang University, Wangsimno-ro 222, Seongdong-gu, Seoul, 133-791, Republic of Korea
*Corresponding Author’s E-mail: jinkukkim@hanyang.ac.kr

Abstract
The cost-effective and energy-efficient design of NGLs (Natural Gas Liquids) is important in natural gas processing. Identifying optimal configurations and operating conditions is not straightforward for turbo-expander-based NGL recovery processes, due to complex design interactions and economic trade-offs existed. In order to investigate Process modelling and simulation has been made for NGL recovery processes and compared their performance in the context of energy consumption. Process integration technique has been applied to enhance the energy efficiency of the process with the aid of energy composite curves, together with the strategic use of conceptual understanding and physical insights. A case study is presented to show the results of process simulation and to demonstrate the applicability of integrated design method adopted in this study.

Keywords: NGLs (Natural Gas Liquids); Design; Energy Efficiency; Process Integration

References