Biodiesel production via transesterification of soybean oil using waste starfish (*Asterinapectinifera*)

YongBeom Jo¹ · Hyung Won Lee¹ · Mi Jin Jeon¹ · Mi Jin Yu¹ · Young-Kwon Park*¹

¹Graduate School of Energy and Environmental System Engineering, University of Seoul, South Korea

Homogeneous catalysts such as KOH and H₂SO₄ have been used for the transesterification reaction to synthesize biodiesel. However, additional costs would be necessary for the purification of biodiesel due to the difficulty of separation of catalyst. Therefore, heterogeneous catalyst such as CaO has been replaced the homogenous catalysts and showed excellent activity. In addition, various natural CaO sources have been applied. However, starfish has never been studied for the synthesis of biodiesel. In this work, calcined starfish waste, as a catalyst, was used to produce biodiesel in a batch reactor for the first time. The detailed results will be suggested.

**Keyword:** Biodiesel, Transestrification, heterogeneous catalyst