

## Pyrolysis Products of Marine Biomass in a Fixed-bed Reactor

정경아, 임성린<sup>1</sup>, 박종문\*  
포항공과대학교; <sup>1</sup>강원대학교  
(jmpark@postech.ac.kr\*)

Thermochemical biomass conversion process is attractive and promising because it can utilize a more diverse range of biomasses than other biochemical processes. Particularly, pyrolysis reaction has a promising producing pathway so that useful chemicals as well as biofuels can be produced from biomass feedstocks. The quantitative and qualitative product performances of pyrolysis depend on process parameters such as biomass types, heating rates, and reactor types. Thus, an investigation into the thermal characteristics of various biomasses is needed to examine the feasibility of pyrolysis systems and their products. In this study, we investigated the pyrolytic characteristics of green (*Ulva* sp.), brown (*Laminaria* and *Sargassum* sp.) and red (*Gelidium* sp.) seaweeds and examined pyrolysis chemicals and biochar from the seaweed biomasses, using a fixed-bed pyrolysis reactor. The pyrolysis products were analyzed by using GC/MS, elemental analyzer and FT-IR. The results showed the yield of value-added chemicals and the carbon recovery of biochar and were compared to the terrestrial biomasses. This study can provide information needed to design seaweed-based pyrolysis systems.