The conversion of methane and carbon dioxide in a coaxial dielectric barrier discharge reactor

Nguyen Duc Ba, 이원규*
강원대학교
(wglee@kangwon.ac.kr*)

Methane and carbon dioxide are two major greenhouse gases, and carbon dioxide is present in many natural gas resources. Direct reduction of greenhouse gases has been received worldwide attention as one of potential methods to overcome the global warming phenomena. As an effective approach, dielectric barrier discharge (DBD) plasma technology has been applied to the conversion of methane and carbon dioxide. In this study, conversion treatment of methane and carbon dioxide were carried out in a DBD reactor under electrical insulating oil and air atmosphere. We obtained the conversion of CO2 and CH4 and selectivity of H2 and CO under the reactor into electrical insulating oils is higher than that in the air atmosphere at the same another experimental condition.