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## Photocatalyst on atmospheric-pressure plasma electrode

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The purpose of this study is to improve the physical properties of photocatalytic ceramic coatings on flexible plasma electrodes in order to improve the decomposition efficiency of harmful gases.  $TiO_2$  and  $ZrO_2$  were used as the photocatalytic materials, polyimide (PI) were used as a flexible polymer binder and N-methyl-2-pyrrolidone (NMP) was used as a dispersing agent. As the ratio of polyimide increased, the surface adhesion and crack resistance improved, but the photocatalytic material exposed to the surface decreased. Increasing the NMP ratio as a diluent to adjust the ratio of polyimide increased the exposure of the photocatalyst on the surface but resulted in poor adhesion and surface cracking. The surface uniformity and cracking of the varying ratios of polyimide, NMP, and TiO<sub>2</sub> were analyzed by scanning electron microscopy. High surface uniformity was found to improve the stability and efficiency of the surface of flexible plasma electrodes.

## Biography

Sang Jun Kim has completed his Bachelor's Degree from Hanbat National University and is pursuing his Master's Degree from Hanbat National University, Department of Chemical and Biological Engineering.

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