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**Decomposition of N-Isopropylacrylamide in low-pressure helium plasma**[1] HORACIO MARTINEZ, YAMILET RODRIGUEZ-LAZCANO, Universidad Nacional Autonoma de Mexico — Emission spectroscopy was applied to observe decomposed species of N-Isopropylacrylamide (N-iPAAm) exposed to He plasma, which was generated by AC discharge at the pressure of 3.0 Torr. In the diagnosis measurement, several emission peaks assigned to the $H_\alpha$ and $H_\beta$ atomic lines, $CH_3O$, CN ($B^2\Sigma$-$X^2\Pi$), CH ($A^2\Delta$-$X^2\Pi$), and $C_3H_5$, CN, CHO, $CH_2O$ and $C_4H_2^+$ transitions were observed and measured at various discharge times. The present results shows the presence of $C_4H_2$ and $C_4H_2^+$ which is not present in great concentration in the simulation done by Herrebout et al (IEEE Transactions on Plasma Science 31 (2003) 659), who used a one-dimensional fluid model for an RF acetylene discharge. The time dependence of the emission intensities was also investigated. When the discharge time of He plasma was increased, the emission intensities of the observed transitions also increased and then gradually decreased.

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