Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

# Radio Frequency-Induced Plasma Polymerization of Allyl Alcohol and 1-Propanol

Şennur CANDAN
Zonguldak Karaelmas University, Karabük Technical Education Faculty,
Division of Materials Education, 78100 Karabük-TURKEY
e-mail: sennur-candan@yahoo.com

**Abstract:** The effect of the composite parameters' plasma power (P)-to-monomer flow rate ($\phi$) ratio (P/$\phi$) in the plasma polymerization of allyl alcohol and 1-propanol was studied. The radio-frequency plasmas of deposits operated at low power (1-15 W) were investigated using deposition rate measurements. Detailed chemical information on the plasma polymers was obtained by X-ray photoelectron spectroscopy (XPS). The study of the surface chemistry of films created from allyl alcohol and 1-propanol demonstrates the importance of the double bond for good \underline{C}-O group retention. The deposition rates of both plasma polymers were found to increase with increasing P. The comparison of the deposition rates of plasma-deposited allyl alcohol and 1-propanol suggests that the double bond is involved in the deposition mechanism.

**Key Words:** Plasma Polymerization, Plasma Deposition, Allyl Alcohol, 1-Propanol, XPS.

Keywords
Authors

chem@tubitak.gov.tr

Scientific Journals Home Page

Turk. J. Chem., **26**, (2002), 783-792.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.26,iss.5.