

Novel plasma polymerization for superhydrophobic surface with Hexamethyldisiloxane (HMDSO)/Toluene mixture coating on glass at Atmospheric Pressure

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The surface modification of glass with super-hydrophobic was carried out plasma polymerization coating. Glass with water-repellency was treated with atmospheric pressure and radio frequency (RF) plasma system using argon (Ar), helium (He) and hexamethyldisiloxane (HMDSO)/Toluene. Ar and He gases were introduced for stable discharge and low discharging power, respectively. The glass sample with the plasma treatment power of 150 W increased the water contact angle to 151 from 51 degree. The fourier transform infrared (FT-IR) spectrometry analyzed the chemical composition of the polymer surface and chemical species of plasma phase was analyzed by optical emission spectroscopy (OES).