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【255】A cellulose based dual-tone photoresist patterned via deep X-ray lithography

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The desire to combine properties such as ready availability, low price and biodegradability makes cellulose and its derivatives an ideal prerequisite for different applications. We demonstrate a new approach of patterning thin films based on Trimethylsilyl-cellulose (TMSC) via proximity X-ray lithography, creating positive and negative tone structures in one single exposure at the same energy dose. Of particular interest is the use of Isopropyl alcohol or water as solvent to create positive tone structures. In contrast, the negative tone was prepared with toluene. The findings suggest TMSC as a potential dual-tone photoresist applied in microelectronics or surface chemistry, used as a dielectric layer, in microfluidics or functionalized for bioassays.

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