



## Low Dk and Df polyimides films based on di(ester anhydride) and di(eter amine)s

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### Abstract:

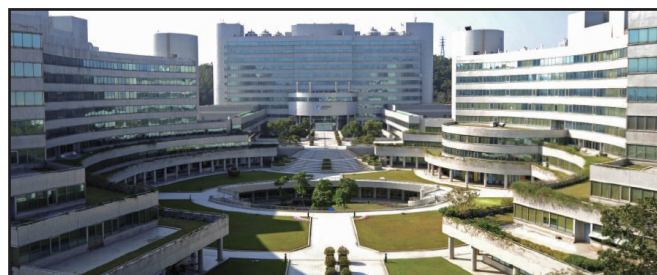
A series of polyimides were synthesis from bis(1,3-dioxo-1,3-dihydroisobenzofuran-5-carboxylic Acid) 1,4-Phenylene Ester (TAHQ) and di(eter amine)s by a standard two-step process with thermal imidization of the poly(amic acid)s precursors. These polyimides films with a low dielectric constant ( $<3.0 @ 10\text{GHz}$ ) are required as interlayer dielectrics for the on-chip interconnection of ultra-large-scale integration devices to provide high speed, low dynamic power dissipation and low cross-talk noise. These polymer film also exhibited good solubility and lower dielectric constant ( $<2.6 @ 10\text{GHz}$ ) and low loss ( $Df < 0.004$ ) with easier process to form insulating film can be used in flexible print circuit material. The selection of chemical compounds with low polarizability and the introduction of porosity result in a reduced dielectric constant. Mesoporous materials offer the opportunity to fabricate scalable dielectric constant materials. We have been working on projects using porous silica materials as low-k dielectrics for electrical interconnections. Moreover, these insulating polymer film showed good adhesion with Cu foil, and high thermal stability ( $T_5 > 450\text{ }^\circ\text{C}$ ).

### Biography:

Yuyang Su has completed her PhD at the age of 28 years from Tatung University. She is the researcher of material and chemical Research Laboratories, in Industrial technology and Research Institute (ITRI). She has published more than 28 papers in reputed journals and her research are included organic and inorganic material like as polyimide, polysilsesquioxane, mesoporous silica, InP quantum dot and hybrid materials

### References:

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### Webinar on Materials Science and Nanotechnology

**Citation:** Yuyang Su; Low Dk and Df polyimides films based on di(ester anhydride) and di(eter amine)s; Euro Materials 2020; July 27, 2020; London, UK