

ABSTRACT

Planarizing and spin-on-carbon (SOC) compositions that fill vias and/or trenches on a substrate while planarizing the surface in a single thin layer coating process are provided. The compositions can planarize wide ranges of substrates with vias or trenches of from about 20 nm to about 220 nm wide, and up to about 700 nm deep. These extraordinary properties come from the low molecular weight of the polymers used in the materials, thermally-labile protecting groups on the polymers, and a delayed crosslinking reaction.

FIG.2