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| 1. Title: | The design of chemically amplified resist for EUV lithography |
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3. Abstract body:

EUV lithography is one of the most promising candidate for semiconductor device manufacturing for 32nm half pitch technology and beyond. The lithographic characteristics required for an EUV light source photoresist are pattern resolution, photo speed, line edge roughness (LER), line width roughness (LWR), and out gassing. In this presentation, we report the analysis and develop of new materials for chemically amplified photoresist focusing on the polymer structure, polymer aggregation, activation energy of the protecting groups and the quantum efficiency of the photo acid generator (PAG). In addition, we report the evaluation results for out gassing, pattern resolution and roughness under EUV exposure. Moreover, we will report on the research for pattern roughness and resolution from the viewpoint of "Uniform resist material" of a substrate coated film.