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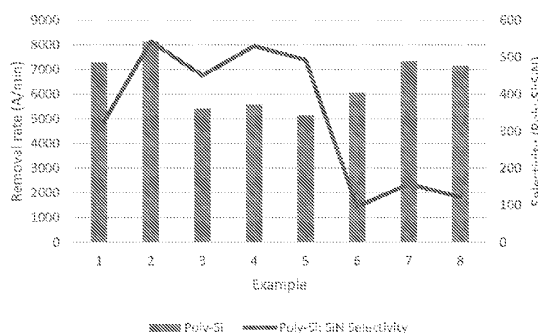
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- (54) **Title: CMP FORMULATIONS AND METHODS FOR POLISHING POLYSILICON FILMS**

FIG. 1. Film Removal Rates and Poly-Si: SiN Selectivity



- (57) **Abstract:** Present CMP compositions contain silica particles as abrasives, a first chemical additive comprising a quaternary amine; a second chemical additive comprising a sulfonic acid group; a water soluble solvent; and optionally biocide and pH adjuster; wherein the composition has a pH of 8 to 12. The CMP compositions have a high polysilicon removal rate and a high selectivity of polysilicon removal rate to silicon nitride removal rate.

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