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(54) Title: METHODS AND COMPOSITIONS FOR DOPING SILICON SUBSTRATES WITH MOLECULAR MONOLAYERS

(57) Abstract: Compositions and methods for doping silicon substrates by treating the substrate with a diluted dopant solution comprising tetraethylene glycol dimethyl ether (tetraglyme) and a dopant-containing material and subsequently diffusing the dopant into the surface by rapid thermal annealing. Diethyl-1 -propylphosphonate and allylboronic acid pinacol ester are preferred dopant-containing materials, and are preferably included in the diluted dopant solution in an amount ranging from about 1 % to about 20%, with a dopant amount of 4% or less being more preferred.