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(54) **Title:** RUTHENIUM ETCHING COMPOSITION AND METHOD

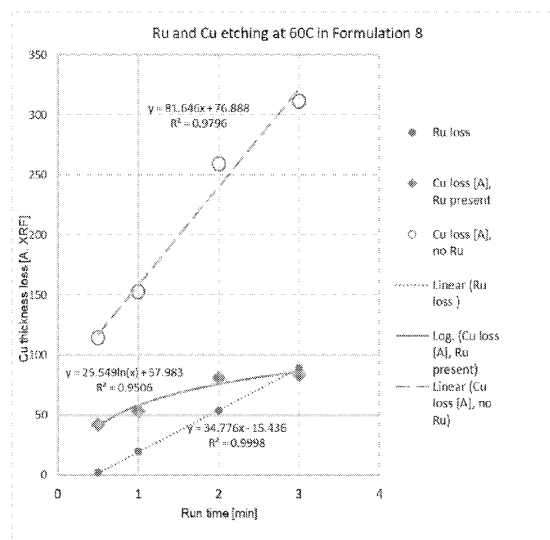


FIGURE 1

(57) **Abstract:** The invention provides compositions useful for selectively etching ruthenium and/or copper. The compositions comprise certain periodate compounds, alkylammonium or alkylphosphonium hydroxides, carbonate or bicarbonate buffers, and water, wherein the pH of the composition is about 9 to about 12.5. The compositions of the invention are effectively utilized in the method of the invention and have been found to be capable of etching Cu and Ru at similar rates, i.e., >20 /min, while minimizing etch rates of dielectrics (<2 /min).

[Continued on next page]

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