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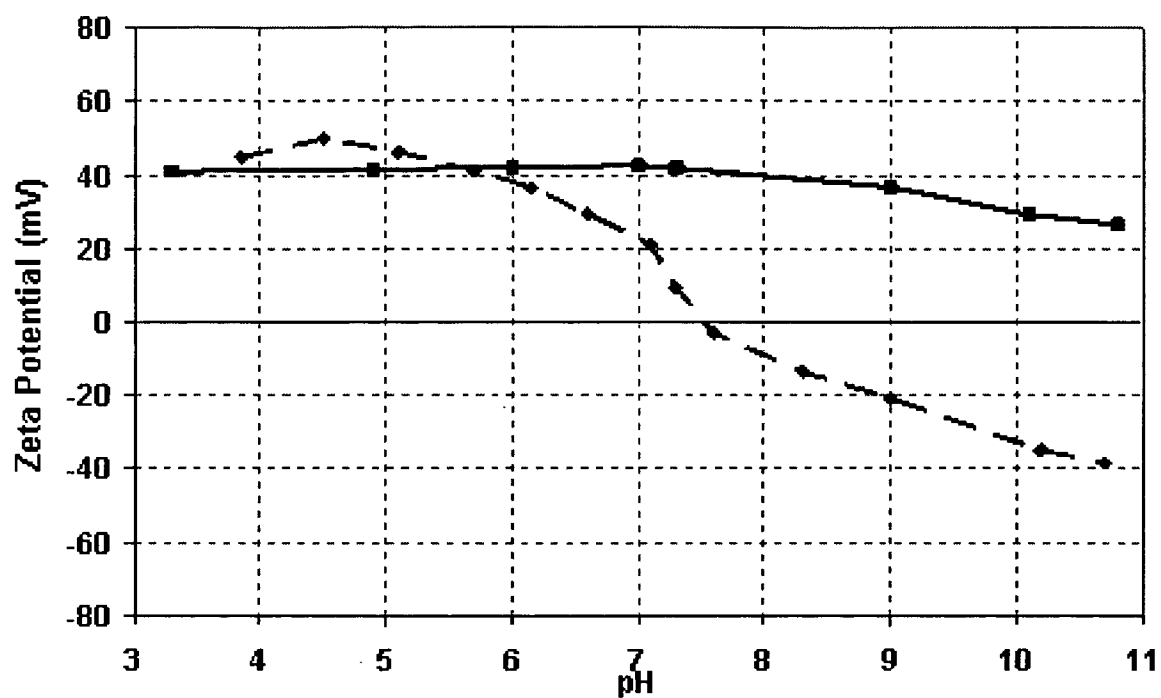


Figure 1

Zeta potential: The solid curve is that corresponding to the product from Example 10 and it shows that the zeta potential is positive over the entire pH range between pH=1 and pH=11. The curve given in dashes corresponds to that of the product from Example 9

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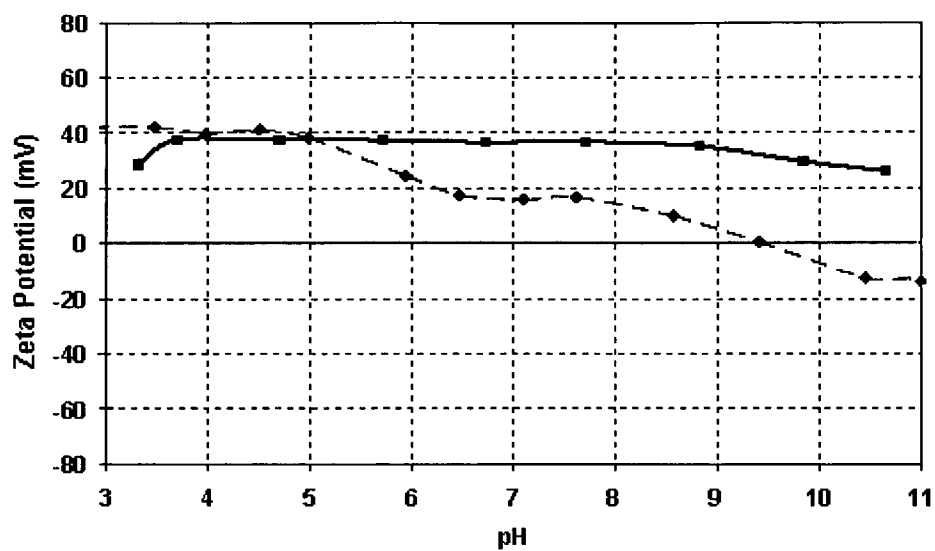


Figure 2

Zeta potential obtained: The solid curve is that corresponding to the product from Example 11 and it shows that the zeta potential is positive over the entire pH range between pH=1 and pH=10.7. The curve given in dashes corresponds to that of the colloidal CeO₂ dispersion of solution A, thus without addition of polymer.

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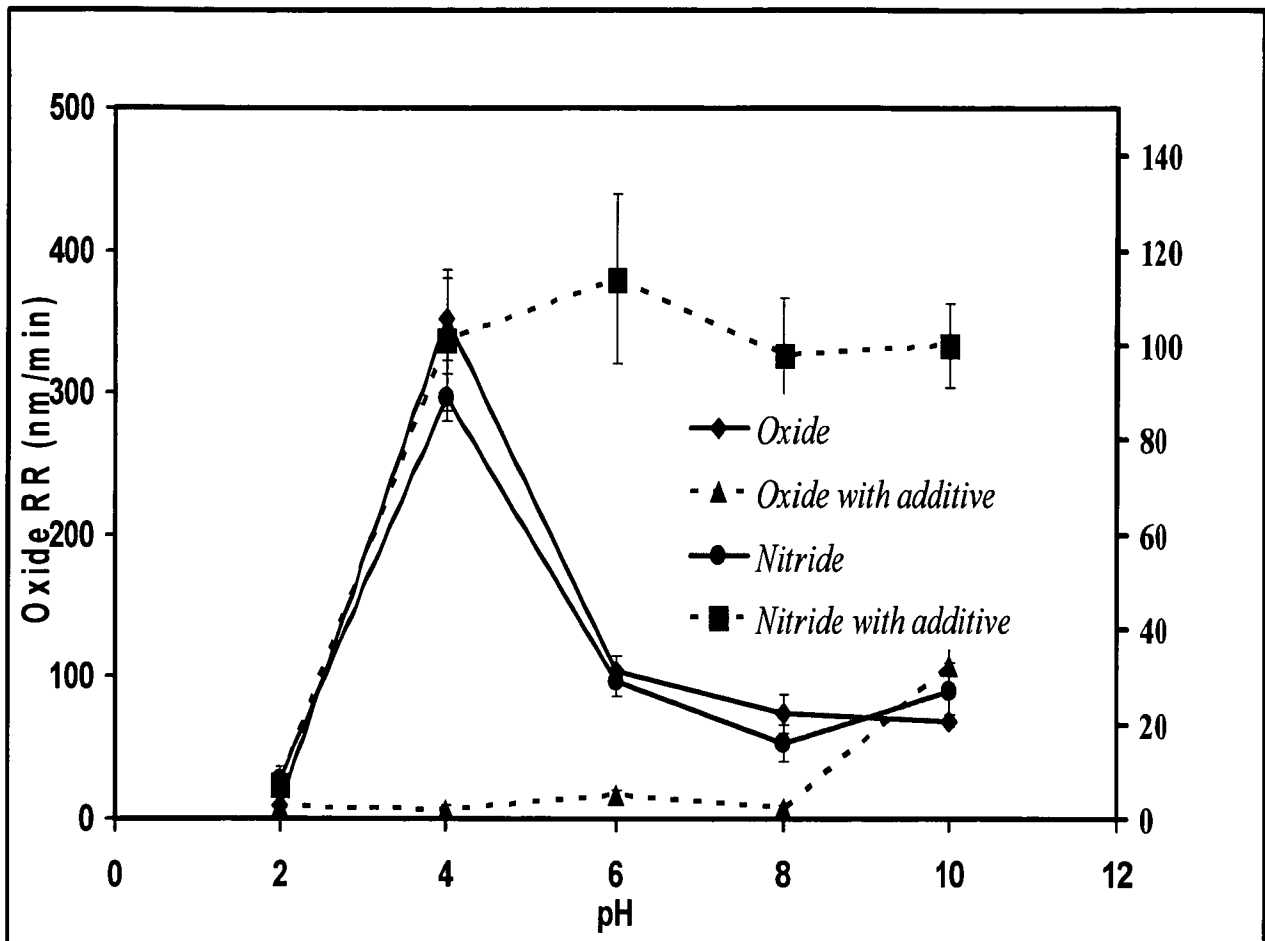


Figure 3:
Polish rates of blanket silicon dioxide and nitride films with 0.25% ceria slurry with and without cationic polymer as a function of pH (*polymer to ceria abrasive compound ratio* (X) = 0.8)

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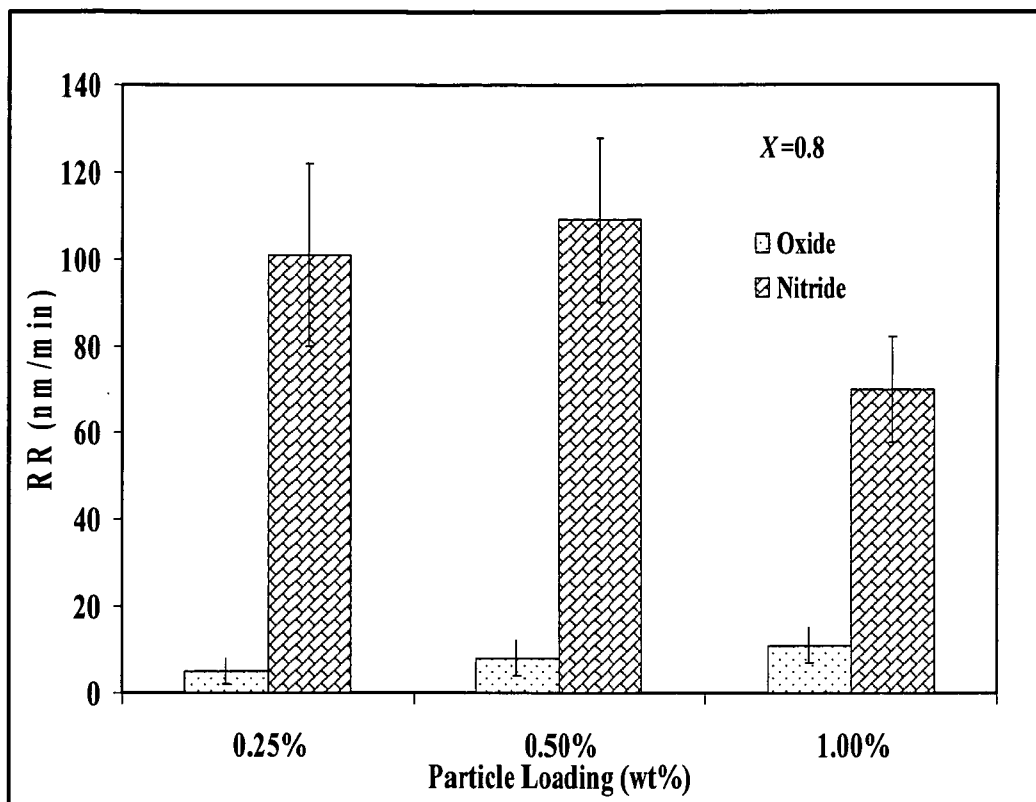


Figure 4
Removal rates (RR) of blanket silicon dioxide and nitride films with ceria slurry with and without cationic polymer as a function of particle loading

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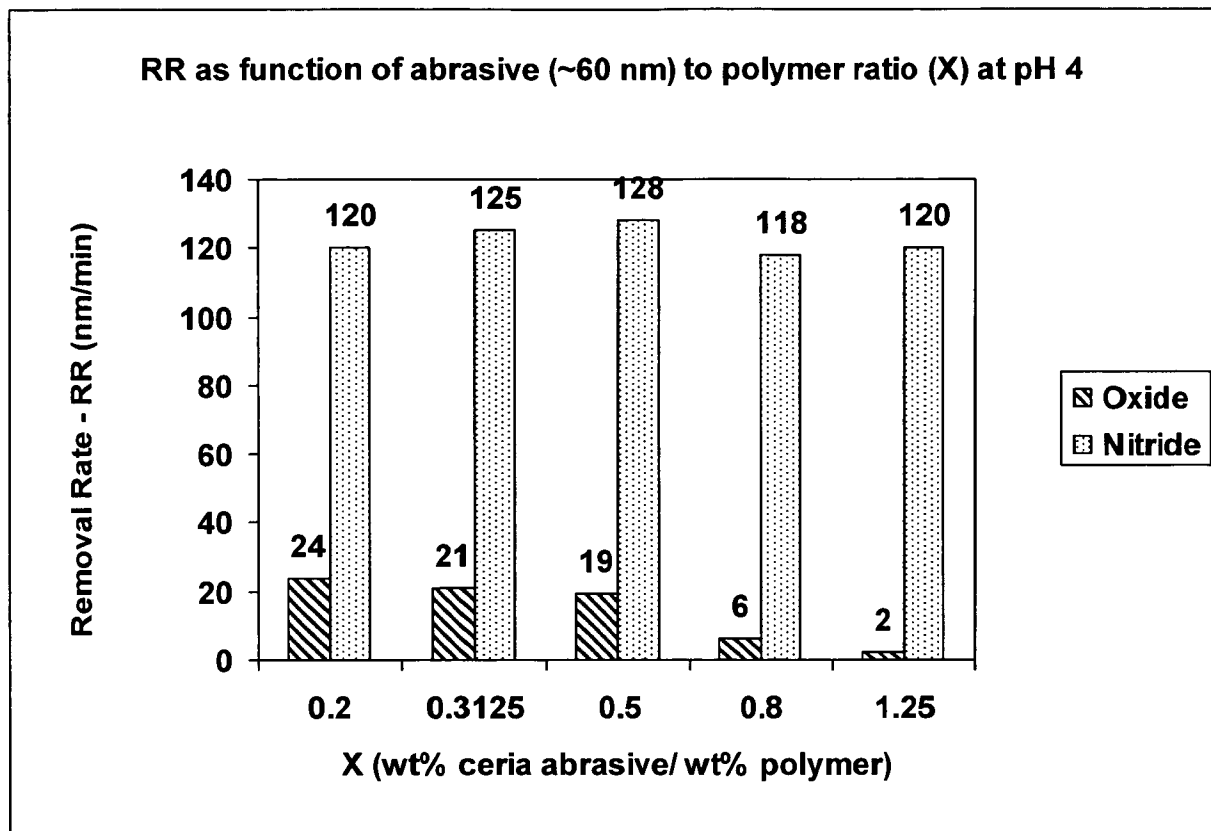


Figure 5
Polish rates of blanket silicon dioxide and silicon nitride films with 0.25% ceria (60 nm) slurry as a function of polymer: abrasive ratio (X) at pH 4

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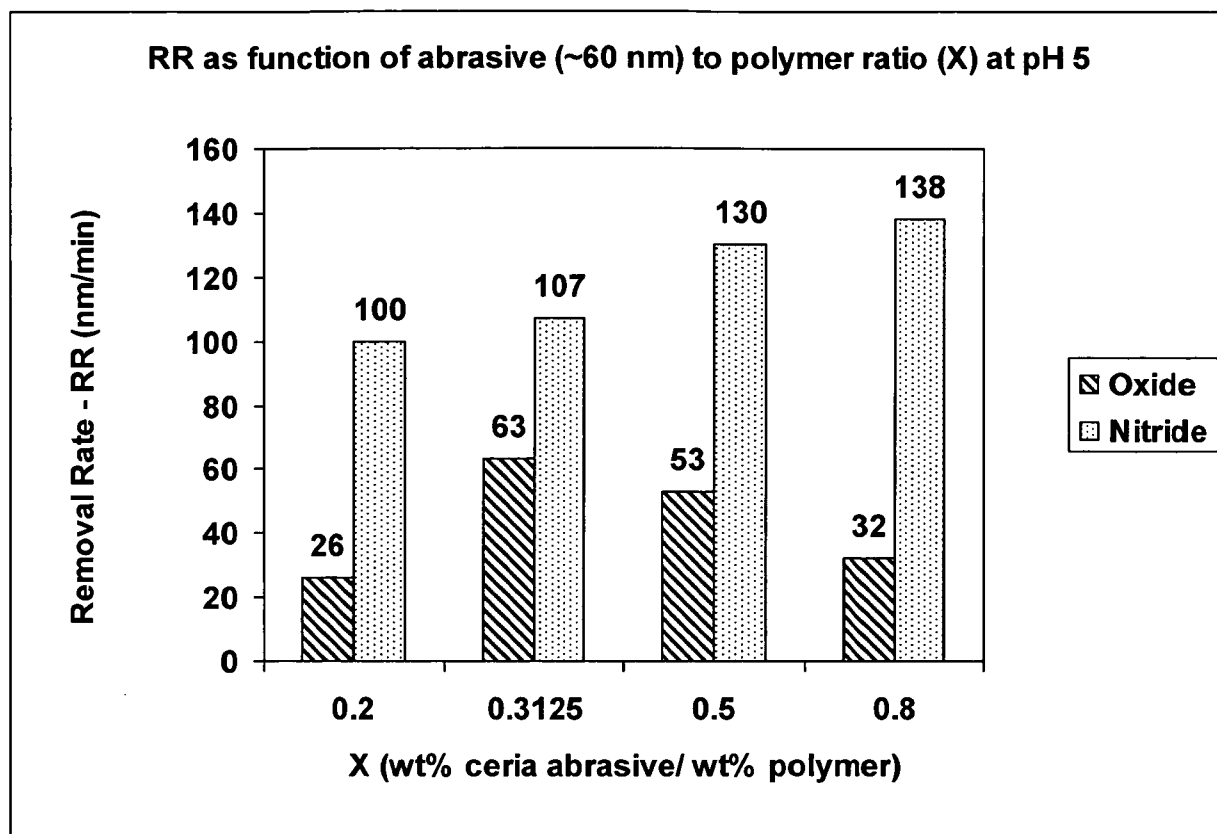


Figure 6
Polish rates of blanket silicon dioxide and silicon nitride films with 0.25% ceria (60 nm) slurry as a function of polymer: abrasive ratio (X) at pH 5

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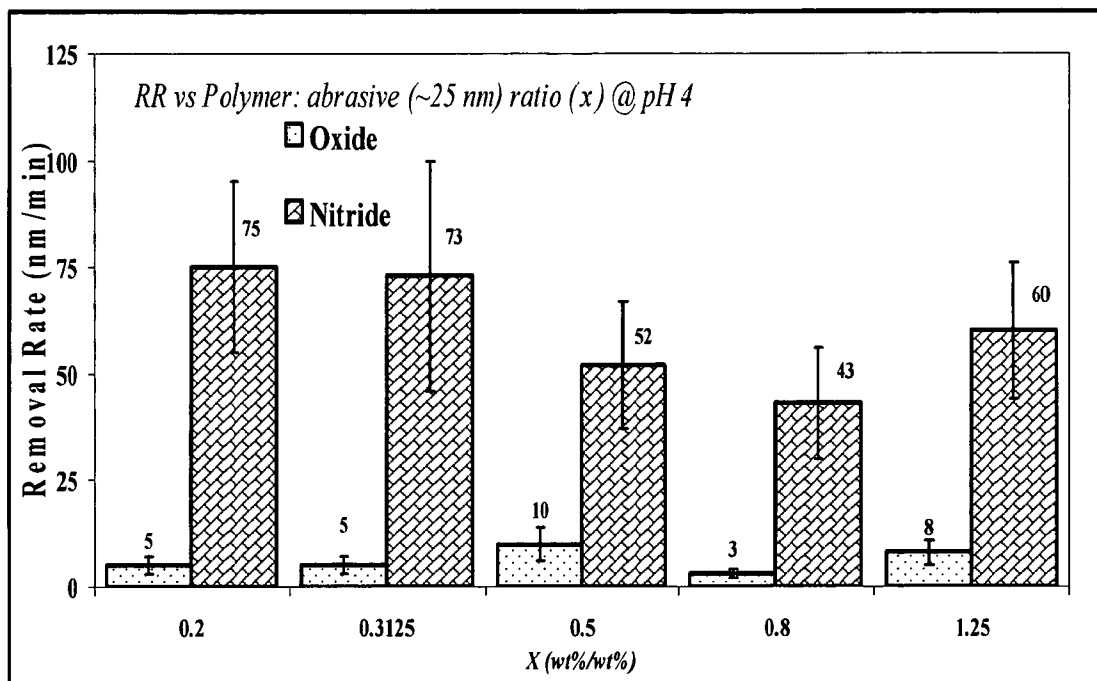


Figure 7

Polish rates of blanket silicon dioxide and nitride films with 0.25% ceria (25 nm) slurry as a function of polymer: abrasive ratio (X) at pH 4

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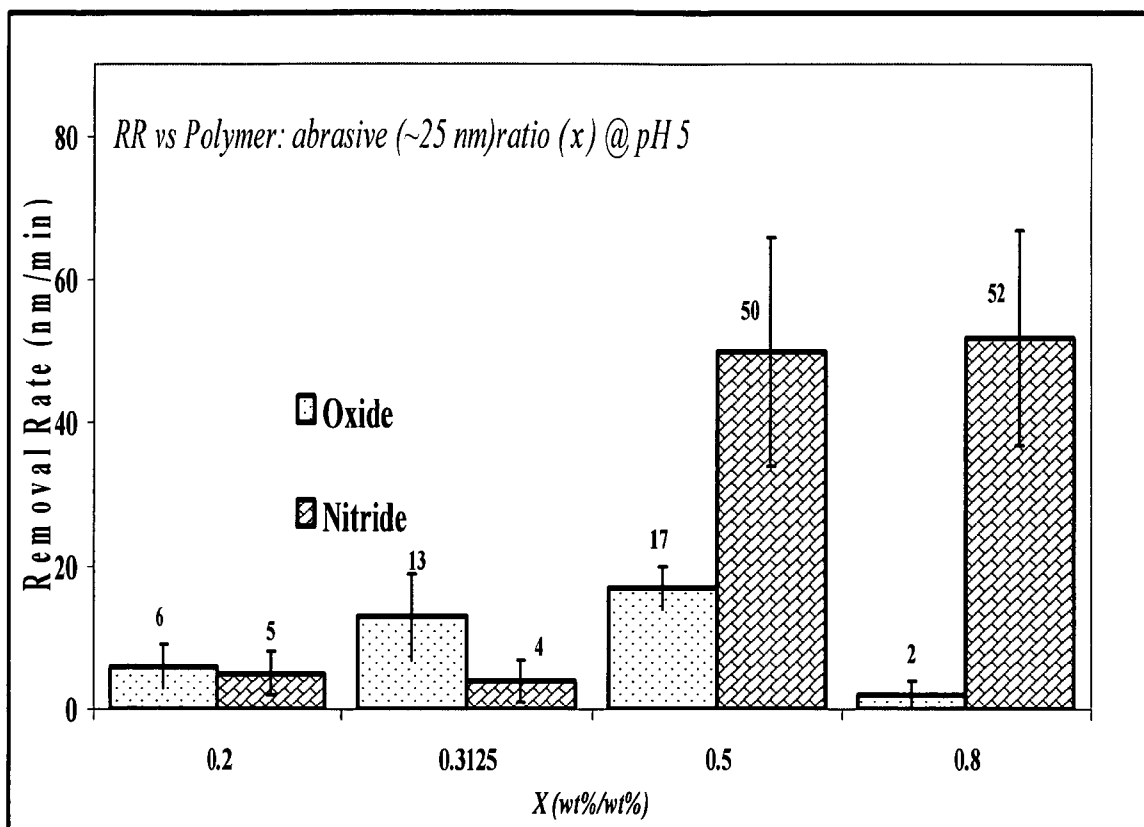


Figure 8
Polish rates of blanket silicon dioxide and nitride films with 0.25% ceria (25 nm) slurry as a function of polymer: abrasive ratio (X) at pH 5

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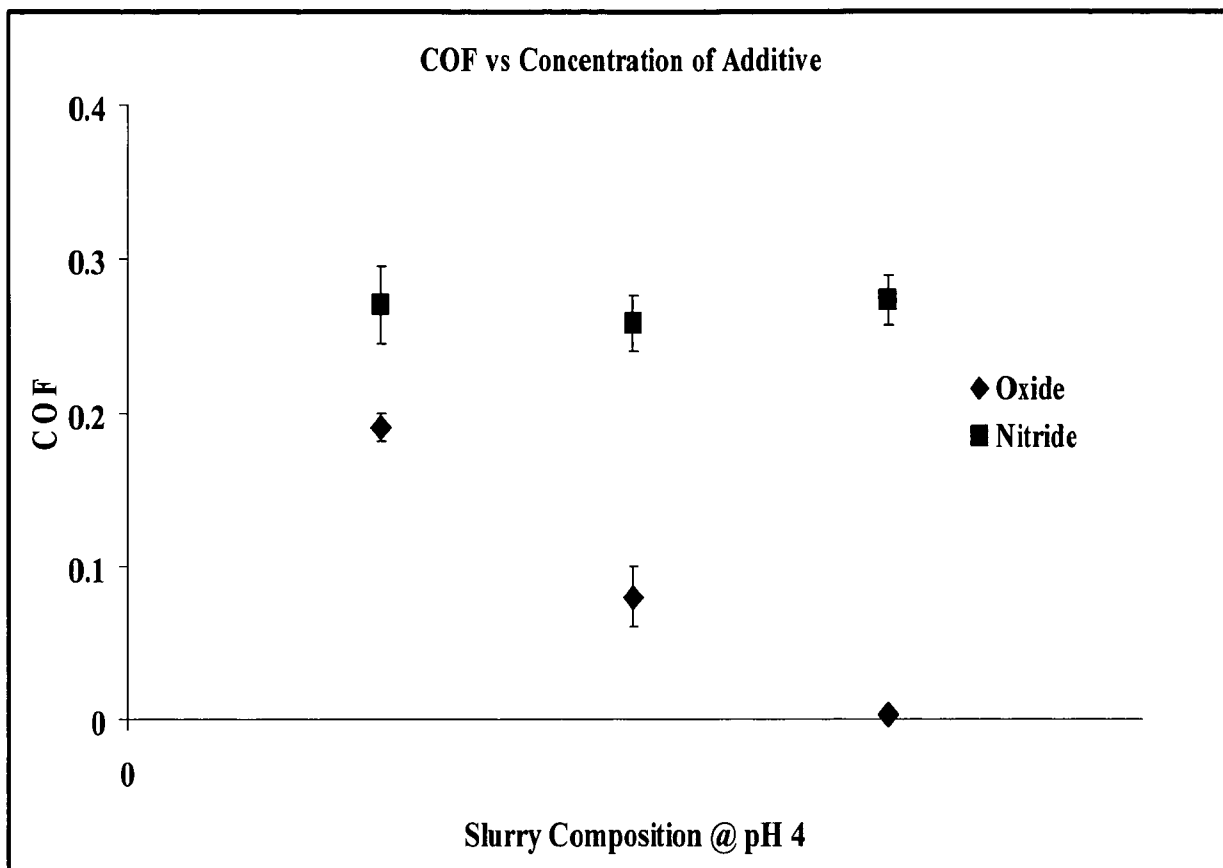


Figure 9
Frictional coefficient data for oxide and nitride films at pH 4 (X = 0, 0.2 and 0.8)

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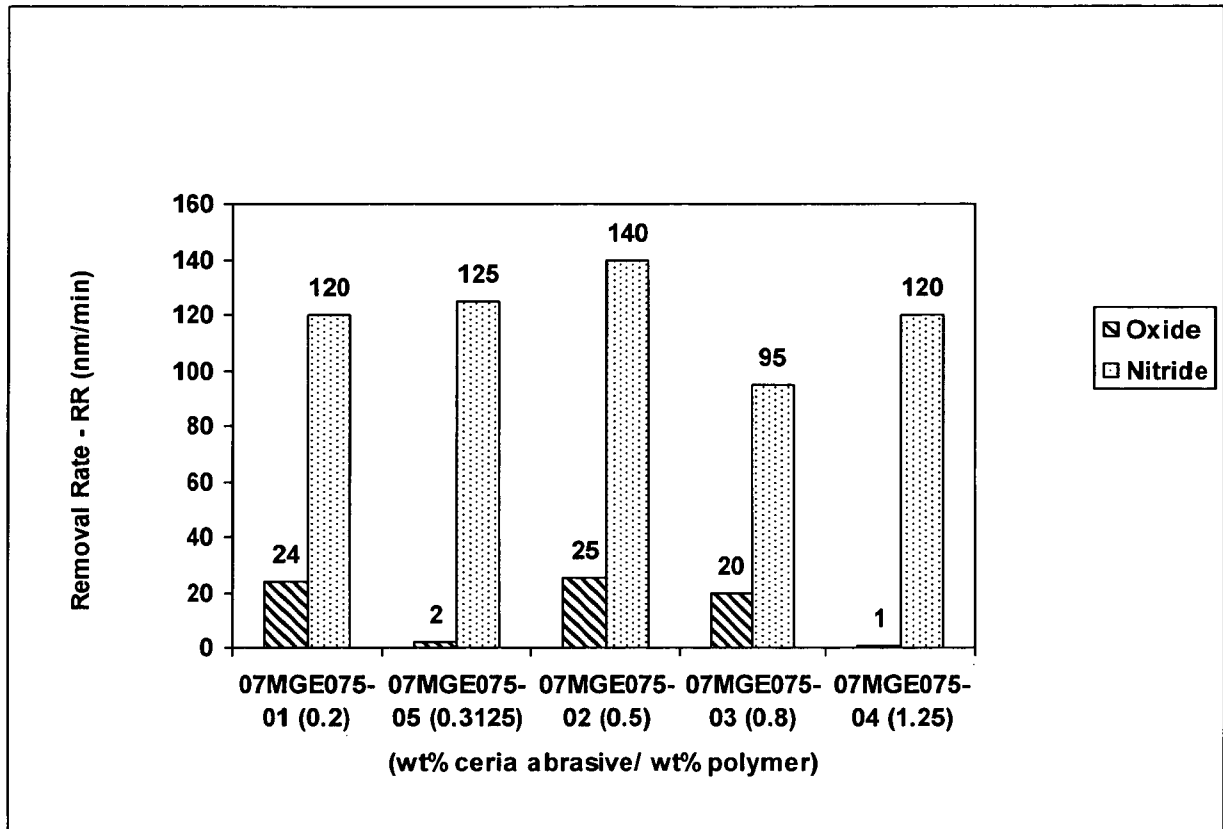


Figure 10

Removal rate of oxide and nitride films polished with ceria (HC 60 (2+)) @ pH 4. Sample ID's and ceria to polymer ratio in the parenthesis are shown in x-axis.

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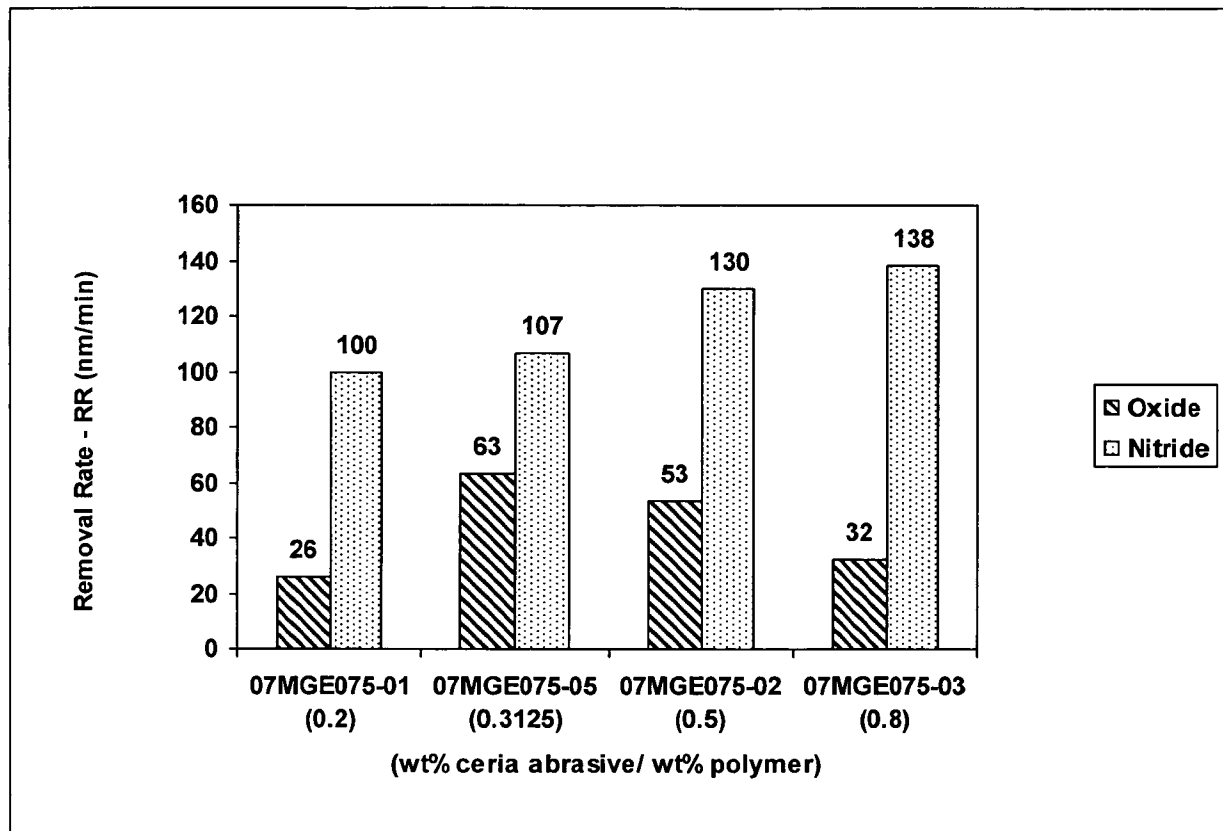


Figure 11

Removal rate of oxide and nitride films polished with ceria (HC 60 (2+)) @ pH 5. Sample ID's and ceria to polymer ratio in the parenthesis are shown in x-axis.

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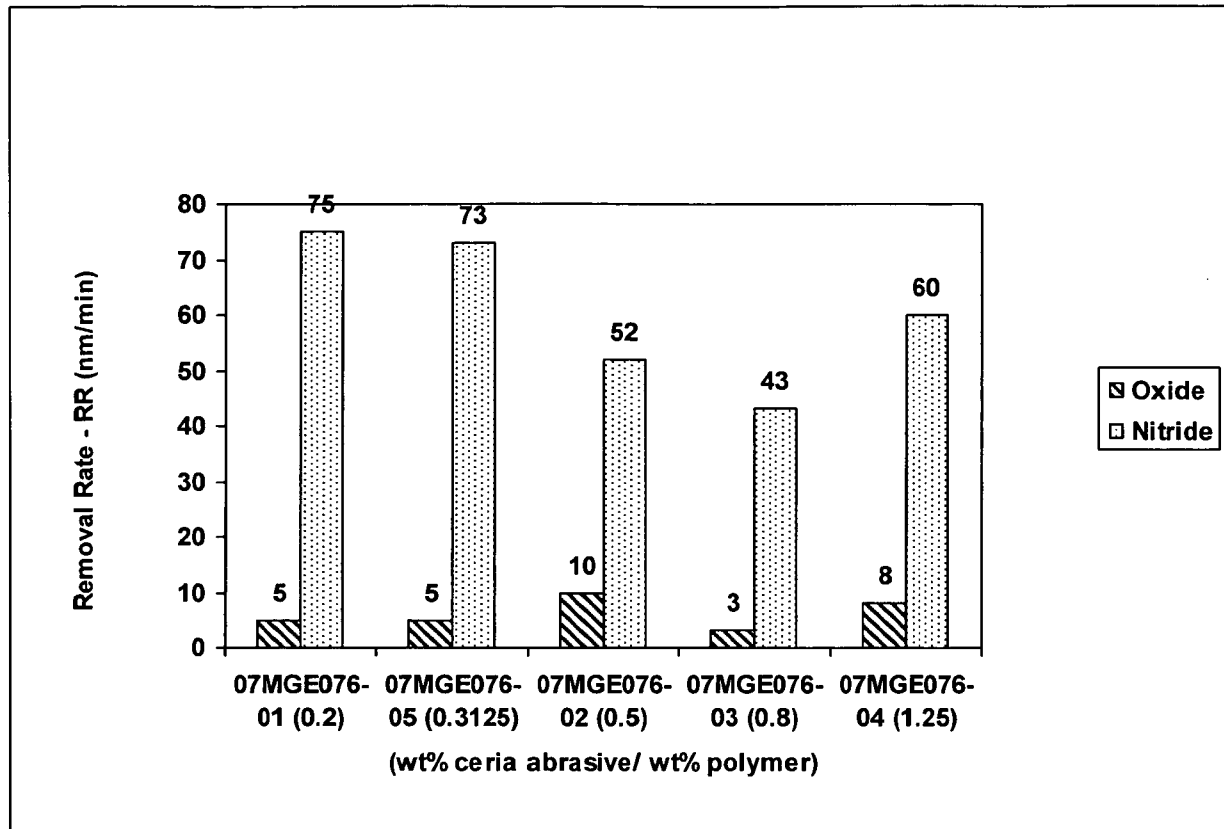


Figure 12

Removal rate of oxide and nitride films polished with ceria (HC 25 (2+)) @ pH 4. Sample ID's and ceria to polymer ratio in the parenthesis are shown in x-axis.

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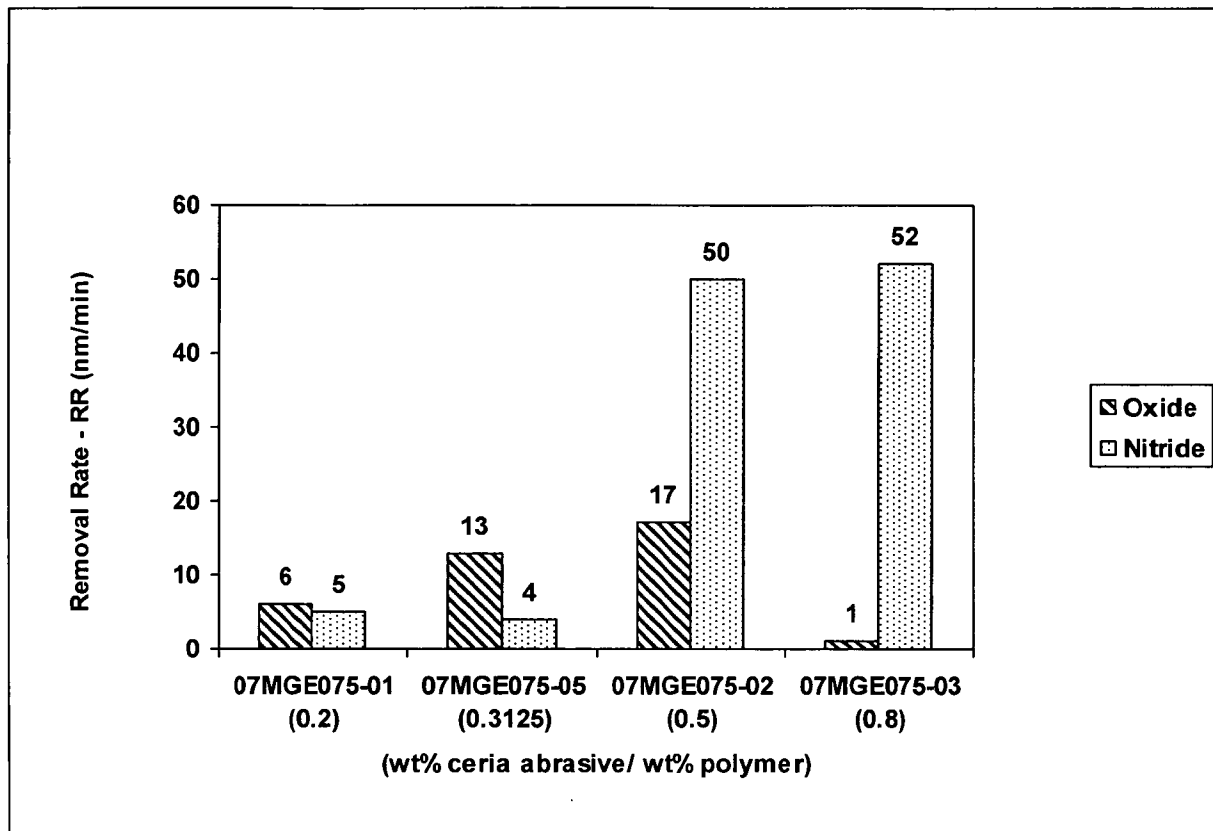


Figure 13

Removal rate of oxide and nitride films polished with ceria (HC 25 (2+)) @ pH 5. Sample ID's and ceria to polymer ratio in the parenthesis are shown in x-axis.

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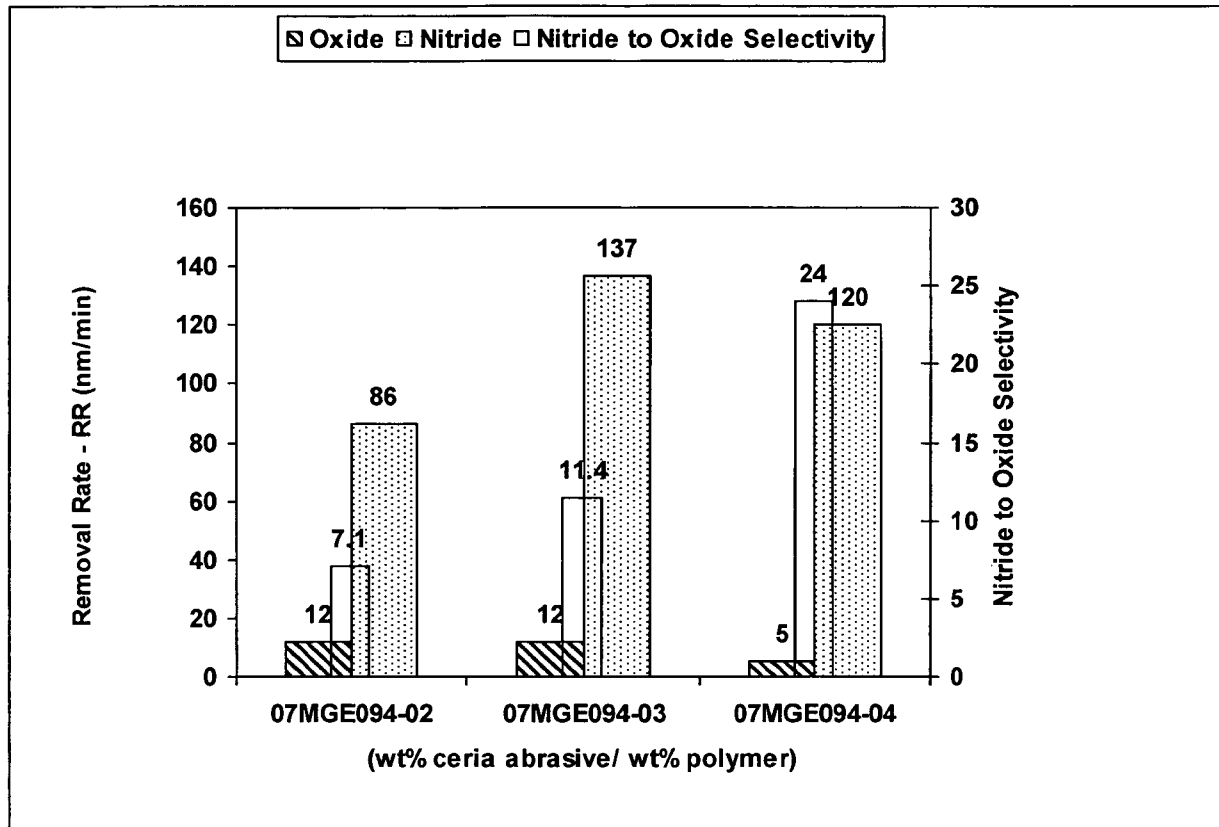


Figure 14

Removal rate of oxide and nitride films polished with ceria (HC 60 (2+)) @ pH 4. Sample ID's and ceria to polymer ratio in the parenthesis are shown in x-axis.

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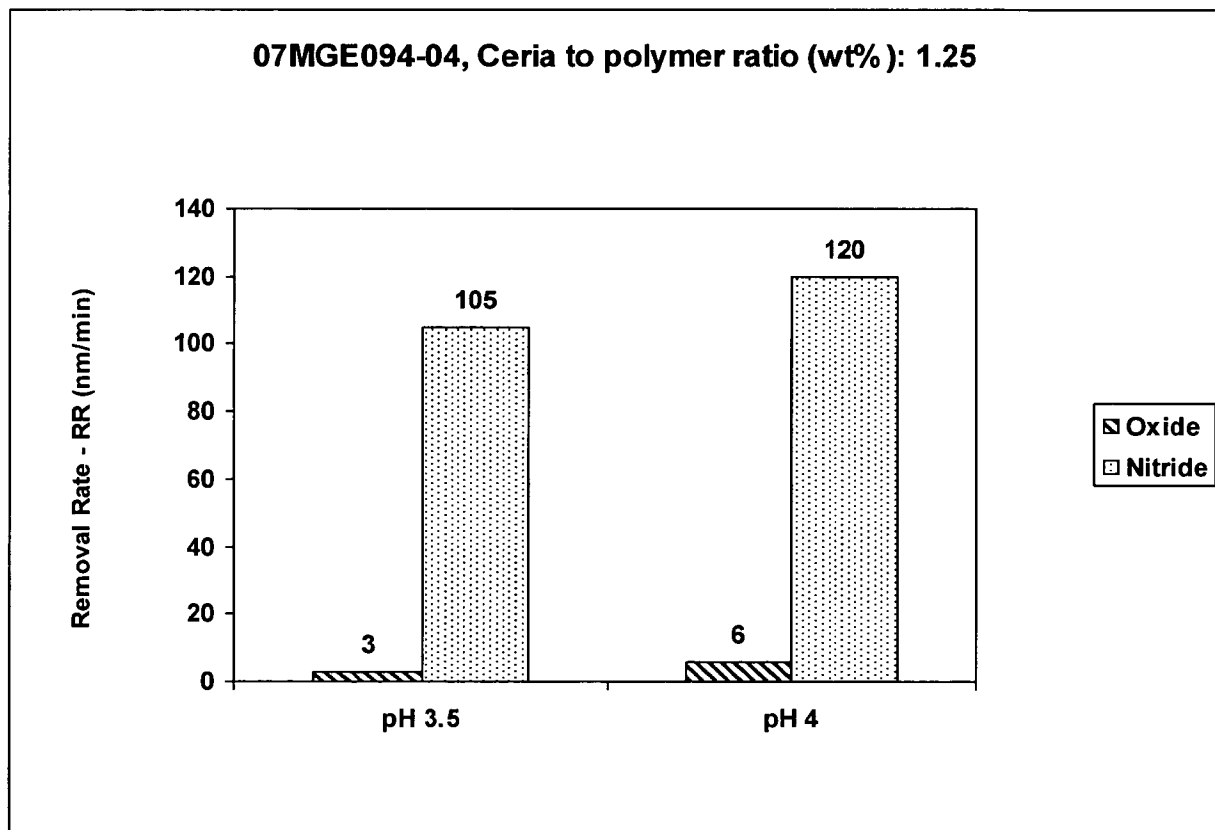


Figure 15
Removal rates of nitride and oxide films polished at pH 3.5 and 4. The slurry contained 0.25wt% of ceria in DI water.

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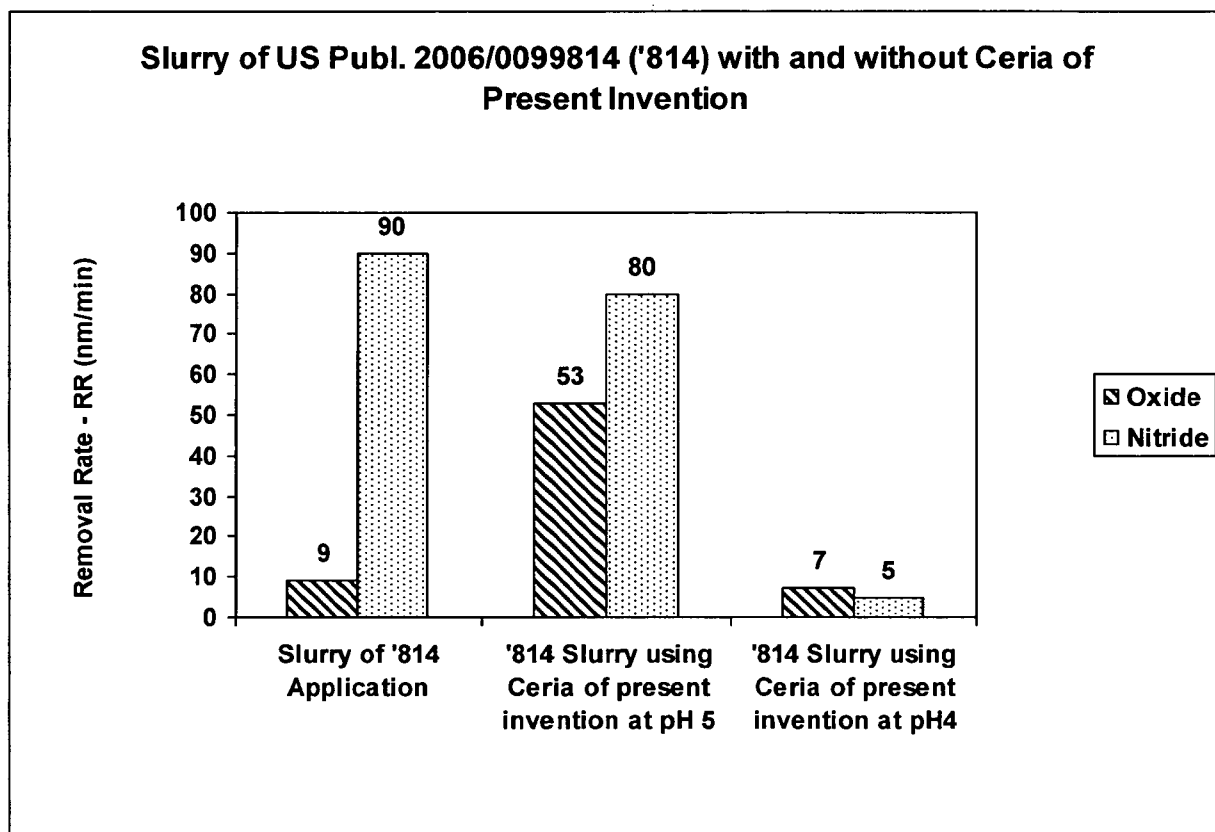


Figure 16
Blanket wafer removal rates of oxide and nitride films with Cabot slurry containing ceria of present invention.

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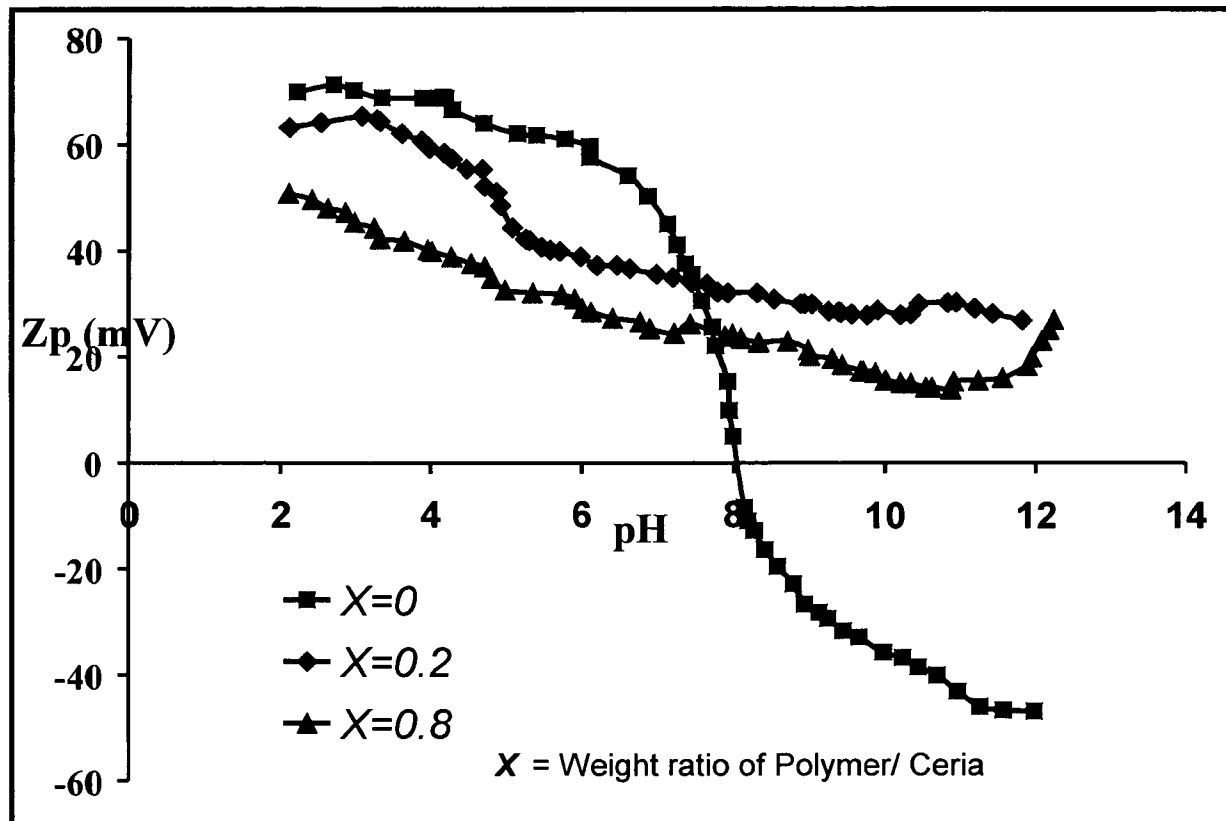


Figure 17

Zeta potential of ceria ($d_{\text{mean}} \sim 60$ nm) as a function of cationic polymer to abrasive ratio

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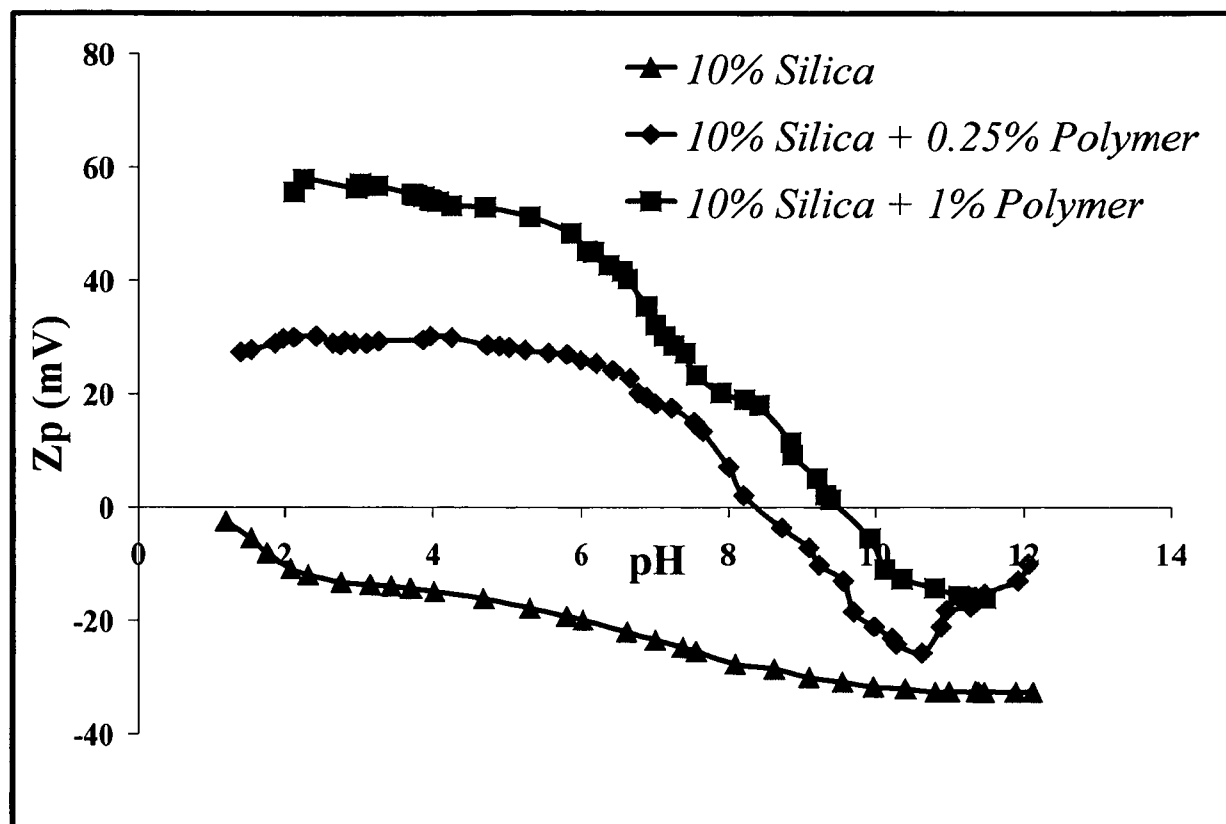


Figure 18
Zeta potential of silica ($d_{\text{mean}} \sim 50$ nm) as a function of cationic polymer to abrasive ratio

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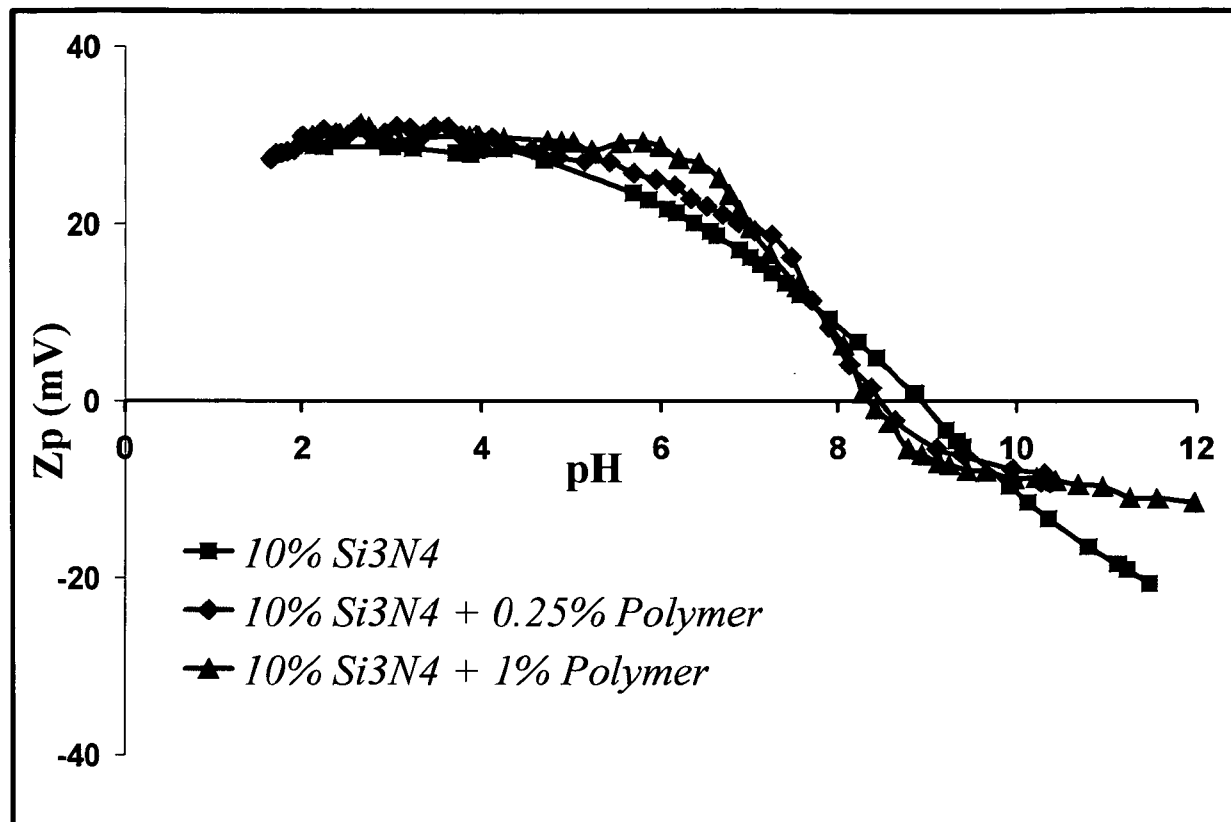


Figure 19
Zeta potential of silicon nitride($d_{\text{mean}} \sim 50$ nm) as a function of cationic polymer to abrasive ratio

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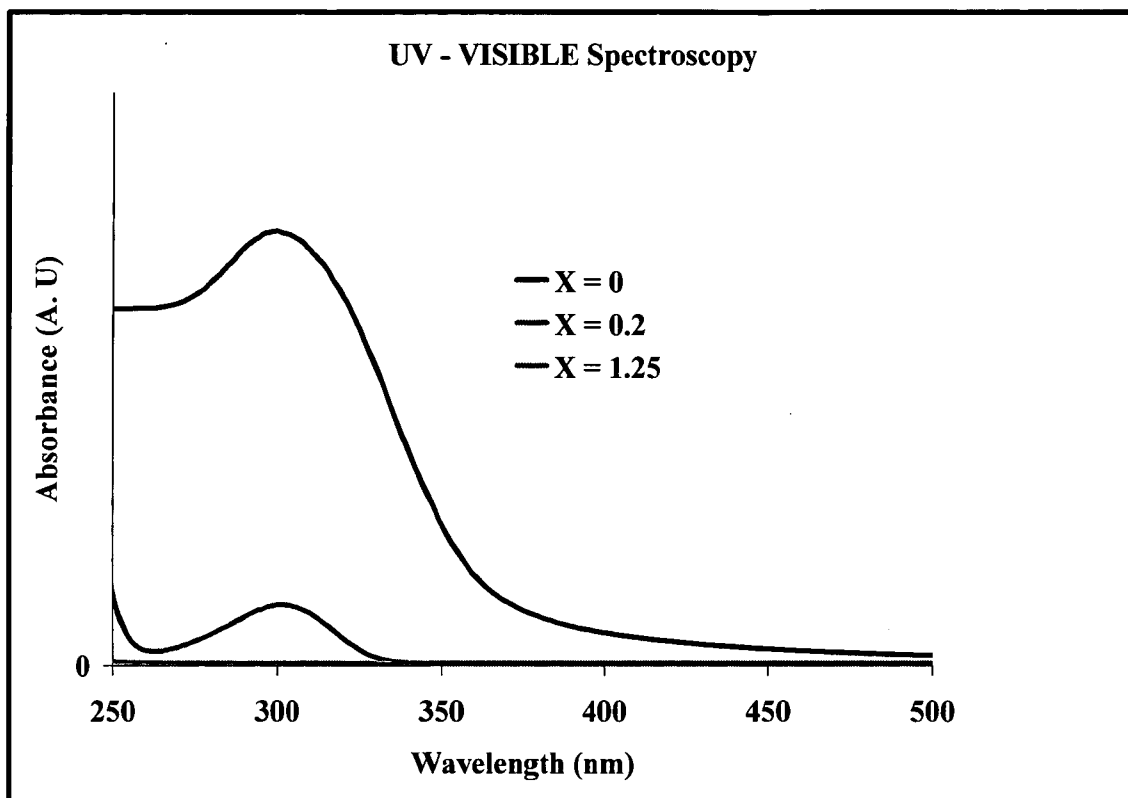


Figure 20

Absorption spectra of ceria slurries with different concentrations of additive