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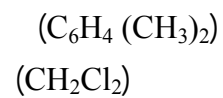
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Old Newsprint(ONP)  
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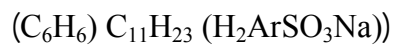
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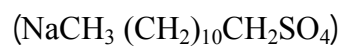
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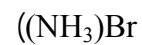
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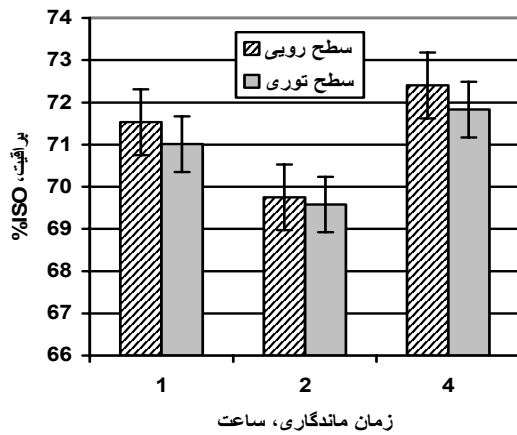
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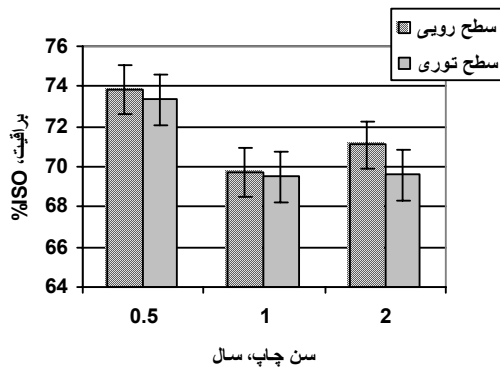
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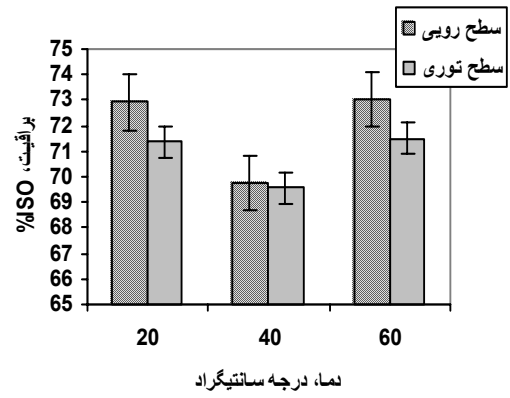
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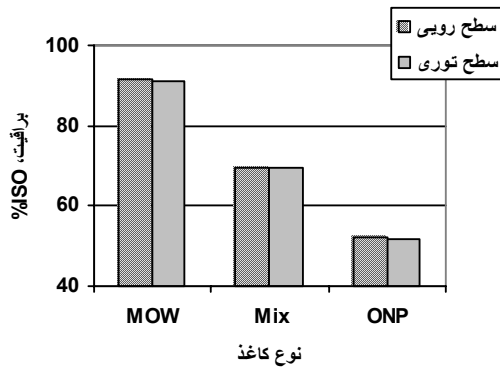
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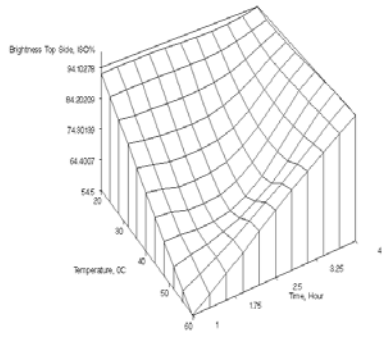
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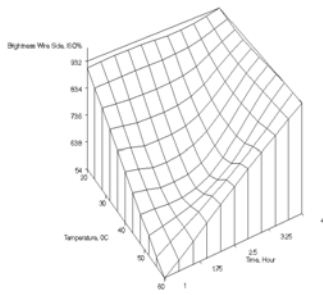
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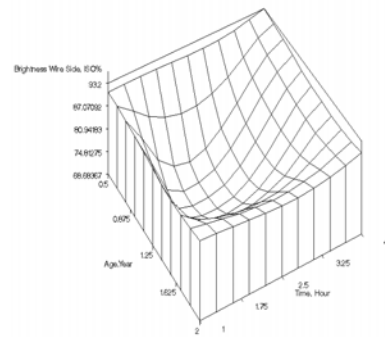
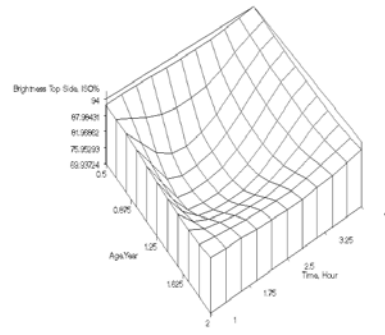
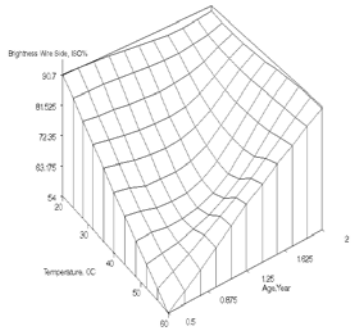
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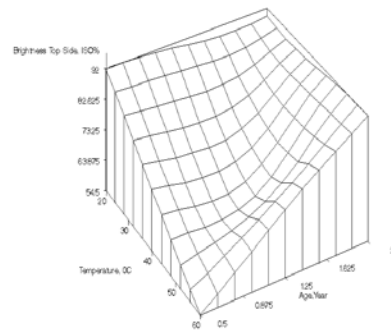
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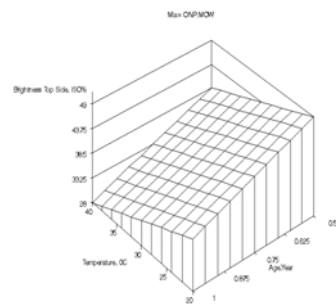
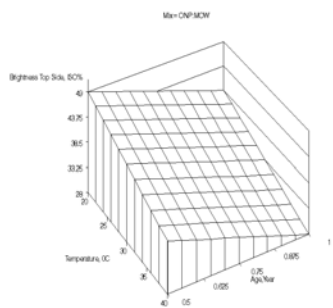
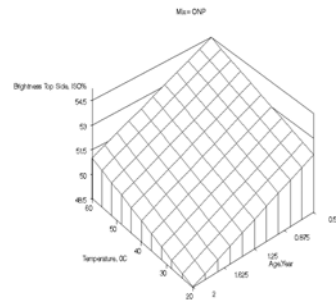
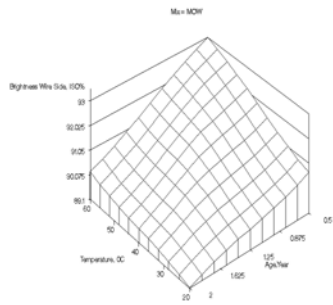
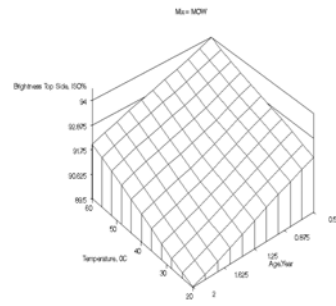
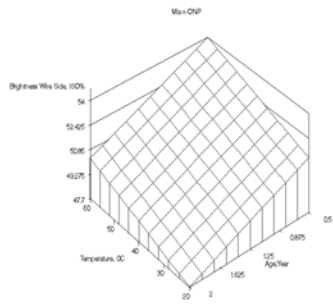
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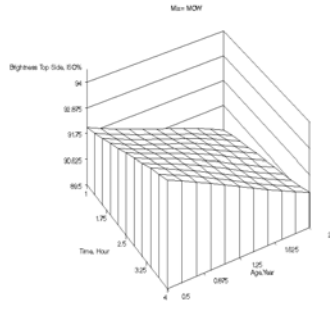
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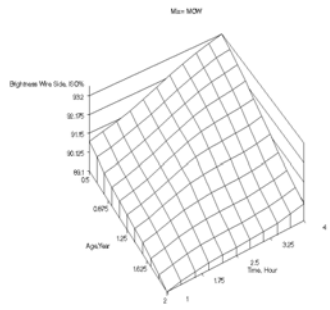
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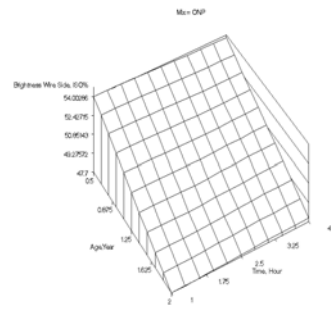
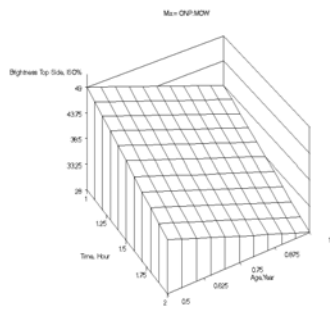
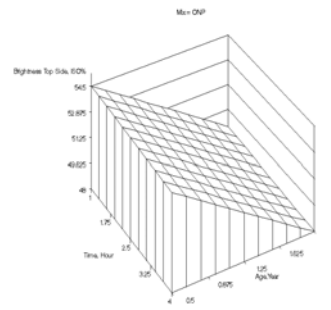
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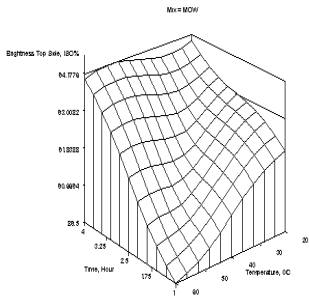
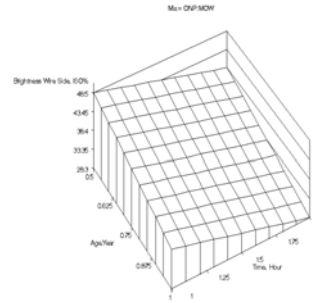
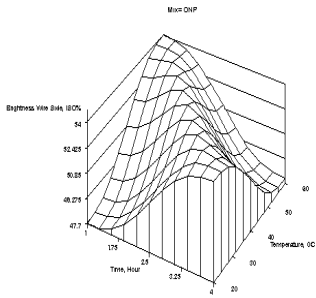
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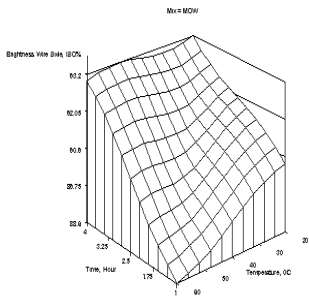
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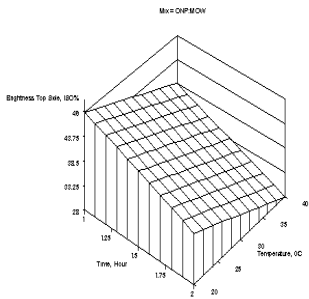




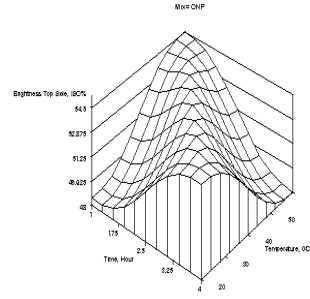
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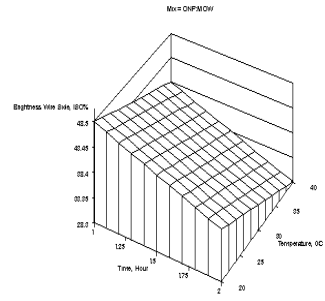


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$T_g$ =Glass Transition Temperature

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## A Study of the Possibility of Aquasol Process to Deink ONP and MOW

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### Abstract

A quasol process was used to deink ONP (Old Newsprint) and MOW (Mixed Office Waste). Aqua-solvent and surfactants mixture was applied to dissolve, disperse and remove ink. The efficient dislodge of ink requires optimized conditions of retention time, temperature, solvent type and print age (i.e. aging). Finally, the contaminants, ink particles in particular, were removed along with the solvent by decantation. The results indicated that maximum brightness was achieved using 4 hours of retention time, 60°C temperature, with a print age of 6 months for either of ONP or MOW. Xylene is preferred to dichloromethane; and dichloromethane cannot be applied through conventional devices. A simultaneous increase in retention time and temperature, and a decrease in print age will bring about an increase in brightness. Besides, separate increase of either retention time or temperature increased the brightness phenomenon. The lower the print age, the higher the final brightness achieved throughout the process. In this respect, a substantial part of brightness loss occurred during the first 6 months after printing and later the effect of aging on brightness becoming less significant. The interactive and independent influences of variables have been discussed illustratively and thoroughly.

**Keywords:** Aquasol, Deinking, Print age, Old Newsprint, Mixed Office Waste, Surfactant, Organic solvent, Aging

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