Identifying the Optimal Concentrations of Luminol and Sodium Carbonate for Sonochemiluminescence

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The purpose of this project was to identify the optimal concentrations of luminol and sodium carbonate for maximum light output by using image analysis in order to construct mathematical models in MATLAB. Luminol concentrations of 1, 10, and 20 mg/mL, and sodium carbonate concentrations of 1, 10, 100, and 200 mg/mL were utilized. The results revealed that the solution of 20 mg/mL luminol and 1 mg/mL sodium carbonate yielded the brightest sonoluminescence cloud.

Awards Won: