Title: Quantifying chemiluminescence of the forensic luminol test for ovine blood in a dilution and time series

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PII: S0379-0738(18)30348-7
DOI: https://doi.org/10.1016/j.forsciint.2018.06.026
Reference: FSI 9373

To appear in: *FSI*

Received date: 26-2-2018
Revised date: 5-6-2018
Accepted date: 18-6-2018

Please cite this article as: Sumiko Polacco, Paul Wilson, Mike Illes, Theresa Stotesbury, Quantifying chemiluminescence of the forensic luminol test for ovine blood in a dilution and time series, Forensic Science International https://doi.org/10.1016/j.forsciint.2018.06.026

Title

Quantifying chemiluminescence of the forensic luminol test for ovine blood in a dilution and time series

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Highlights

- Quantifying chemiluminescence reveals times series trends in blood-luminol reactions (84)
- RLUs and qualitative imaging provide a robust method to characterize the reaction (81)
- Intensity maxima and half-lives vary with dilution and between fresh or dried blood (83)
- Characterization has applications in luminol photography and fluid comparisons (81)

Abstract

This study investigates the chemiluminescent reaction of whole ovine blood to a luminol solution in time and dilution series. Replicate samples of both fresh and dried certified pathogen-free ovine blood were prepared and diluted. Seven dilution conditions from neat to 1:1 000 000 were created for testing. A luminol solution, created using the standard Weber protocol, was applied to all samples in controlled laboratory conditions. A SpectraMax® M3 microplate reader luminometer was used to quantify the chemiluminescence from the reactions as relative