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## Toxicity study in blood and tumor cells of laser produced medicines for application in fabrics

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### Highlights

► ► Phenothiazines water solutions exposed to UV laser beam are stable one month. ► Irradiation yields to stable photoproducts of CPZ and PZ, producing oxygen-independent photohaemolysis. ► Irradiation process of CPZ and PZ promotes the generation of substances with higher cytotoxic character than the parent ones. ► Irradiation results in an enhancement of the wetting and distribution of the CPZ and PMZ substances in the fabrics.

### Abstract

Phenothiazine derivatives are non-antibiotics with antimicrobial, fungistatic and fungicidal effects. We exposed to a high energy UV laser beam phenothiazines solutions in water at 20 mg/mL concentration to increase antibacterial activity of resulting mixtures. Compared to previous results obtained on bacteria, more research is needed about UV laser irradiated phenothiazines applications on cancer cell cultures to evidence possible anticancerous properties. Evaluation of the safety of the newly obtained photoproducts in view of use on humans is also needed. Due to expensive animal testing in toxicology and pressure from general public and governments to develop alternatives to *in vivo* testing, *in vitro* cell-based models are attractive for

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