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GREEN SYNTHESIS OF SILVER NANOPARTICLES MEDIATED BY ACEROLA (MALPIGHIA EMARGINATA D.C.) EXTRACT

Morselli, G.R.(1); Lugão, A.B.(1); Oliveira, M.J.A.(1); Cotrim, M.B.(1);

(1) IPEN;

Silver nanoparticles are solids of nanometric size (10-9 m), that contains differentiated properties, mainly optical, catalytic and bactericidal. In the presented work, the green synthesis of silver nanoparticles mediated by acerola (*Malpighia emarginata* D.C.) extract, a fruit with high level content of acid ascorbic, carotenoids, flavonoids and anthocyanins, was developed. The acerola extract was prepared in deionized water, starting from the freeze dried fruit, and diluted for concentrations values of 40%, 50% and 60% (w/v). The nanoparticles were synthesized by slow addition of 4 mL 2,5 mM AgNO₃ solution in 20 mL extract under stirring. The solution remained for five minutes under stirring and then was dialyzed against deionized water for 48 hours. The synthesis were done at room temperature and at 50°C, variating between the three values of extract concentration. The silver nanoparticles solutions exhibited a defined UV-Vis spectra, with larger polydispersion in samples synthesized at 50°C. It has been concluded that this synthesis is viable and the nanoparticles are stable in at least two months, which suggests further studies for its applications.