Nanosilica in Cr(III)-amino acid Nutraceutical Preparation and Characterization

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Silica nanoparticles was prepared from bamboo (*Dendrocalamus Asper)* leaves by calcination at 800 ºC for 4 hours. The ash then demineralized by 0.1M HCl by stirring in an hour and soaking in 24 hours. The mixture then washed with water until neutral. Demineralized silica then dried at 110ºC for 2 hours. The product was characterized by SEM-EDX and X-Ray diffraction. The morphology of demineralized silica was elongated sperical shape. The particle size of the agregate was about 7.7 - 21.4 µm and 4.7 µm, before and after demineralization. The EDX analysis showed that the composition of the sample were 56.73 % Si and 43.26% O, respectively. The XRD pattern showed the *crystobalite* peak at 2θ =21,6º. According to PDF No 39-1425 and PDF No. 18-1170 (JCPDS), the peak of SiO­2 ranged to 20,5º- 21,6 º. The particle size of the silica is 7.057 nm, determined by Scherrer formula.

*Keywords: Dendrocalamus Asper* , *nanoparticles , silica*