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Green synthesis, characterization and anticancer activity of yttrium oxide nanoparticles

P.C.Nagajyothi^{1†}, M. Pandurangan^{2†}, M. Veerappan³, Doo Hwan Kim², T.V.M. Sreekanth^{4*},
Jaesool Shim^{1*}

¹School of Mechanical Engineering, Yeungnam University, 214-1 Dae-dong, Gyeongsan-si,
Gyeongsangbuk-do 38541, Republic of Korea.

²Department of Bioresources and Food Science, Konkuk University, Seoul, South Korea.

³Department of Zoology, Tagore arts college, Puducherry, India.

⁴School of Chemical Engineering, Yeungnam University, 214-1 Dae-dong, Gyeongsan-si,
Gyeongsangbuk-do 38541, Republic of Korea.

[†]These authors contributed equally to this work

*Corresponding author: E-mail: jshim@ynu.ac.kr, tvmsreekanth@gmail.com,

Tel: +82-53-810-2465; Fax: +82-53-810-462

ABSTRACT

Yttrium oxide nanoparticles (Y₂O₃ NPs) are synthesized successfully using *Forsythiae fructus* aqueous fruit extract. The structural and morphological properties of Y₂O₃ NPs were systematically studied by FTIR, SEM, TEM, XPS and XRD patterns. The results indicate the NPs with flake-like flower morphology. The overall results indicated that the green synthesized Y₂O₃ NPs exhibited potent anti-cancer activity against renal carcinoma cells. The synthesis method is inexpensive, eco-friendly, reduced harmful side effects and alternative to physical/chemical methods.

Keywords: Nanoparticles; XPS; Y₂O₃ NPs; Anti-cancer.

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