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Estimating optimum properties using enumerated data for calcium carbonate/PP nano composites as bone analogue biocomposite

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This paper presents the modified polymer matrix bio-composite for bone analogue and replacement. The PP polymer is employed as polymeric matrix to give robust properties, particularly when it is used with nano ceramic filler. In this work, the nano calcium carbonate ($CaCO_3$) is proposed as a filler, and the optimum processing conditions for $CaCO_3$/PP nano composites represent the bone analogue biomaterials, using the enumerated data by MATLAB environment. The effects of the nano sized Al_2O_3 on the mechanical properties are also considered here. ESM using MATLAB program, provided an indication for optimum processing condition that prove the classical experiments' design. The results show the optimum mechanical properties and uniform distribution of the fillers.

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