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Title: Homology Modelling of Lycopene Cleavage Oxygenase: The Key Enzyme of Bixin Production

Abstract: (Up to 500-600 Words).

Bixin is a natural dye and a high commercial important compound, produced from Bixin synthetic pathway in case of Bixa orellana plant. The particular enzyme Lycopene cleavage Oxygenase catalyzes the first step of reaction pathways from Trans-lycopene to Bixin synthesis. The 3D structure of the enzyme was predicted by MODELLER program and the missing side chains were verified by SCRWL4 tool. Model validation was done by using the output of PROCHECK and DOPE score. .
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Figures/ Images/ Graphs/ Table (both Color and BW) if any

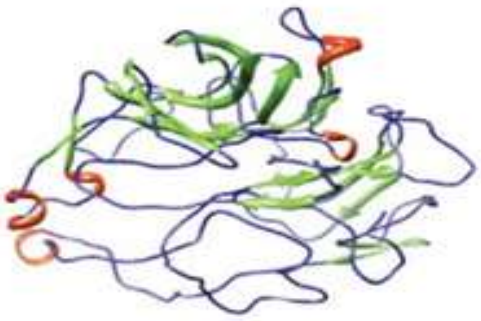

Figure 1: The final considered model from Modeller output (Visualisation by Chimera).

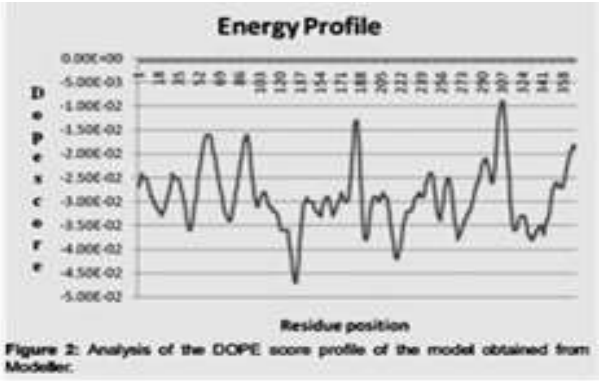

Figure 2: Analysis of the DOPE score profile of the model obtained from Modeller.

Importance of Research:(Up 200 Words).
Annatto (Bixa orellana L.) plant contains pigment contains bixin and norbixin, valuable natural colorants (Rodrigues et al.,2007). These pigments are widely used for industrial food and beverages, cosmetics, and as natural dyes for textiles (Chattopadhyay et al., 2008). Bixa orellana seed extracts also lowers blood glucose level by stimulating peripheral utilization of glucose so the seed might be of pharmacological importance (Russell et al., 2008). The natural dye bixin is extracted from the seed of the annatto plant and widely used as food colorant. Many restrictions are on the use of synthetic additives in the food industry as
the synthetic dye having adverse effect but the investigation on biochemical properties of Bixa orellana plants and seed extracts has proven that it is having tumour inhibiting capacity (Reddy et al., 2005).

Keywords: Bixin, Homology Modelling, Docking, RC Plot

References: (15-20 References)

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Biography:(Up to 200 words)

John has completed his PhD from Oxford University. He is the Head of the department of Biology and dean of a premier research institute. He has published more than 35 papers in reputed journals and has been serving as an editorial board member of repute journals.

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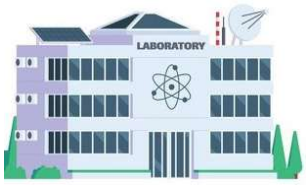

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