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(71)**Name of Applicant :**
**1)National Institute of Technology Karnataka**
Address of Applicant :Srinivasnagar PO, Surathkal, Mangaluru - 575025, Karnataka, India Mangalore ---------- ----------
**Name of Applicant : NA**
**Address of Applicant : NA**
(72)**Name of Inventor :**
**1)Mahin Saif Nowl**
Address of Applicant :President Villa, Mogral , Mogral (P.O), via Kumbla Kasaragod, Kasaragod-671321, Kerala, India. Kasaragod ---------- ----------
**2)Ambili V**
Address of Applicant :Madambikkad, Kavassery PO,Palakkad-678543, Kerala, India. Palakkad ---------- ----------
**3)Santhra Krishnan P**
Address of Applicant :Vanjipottil (H),Edanad, P.O. District-Alappuzha,Chengannur-689123, Kerala, India. Chengannur ---------- ----------
**4)Saumen Mandal**
Address of Applicant :RM 203,Department of Metallurgical and Materials Engineering NITK, Surathkal,Dakshin Kannada District,Mangalore-575025, Karnataka, India. Mangalore ---------- ----------
**5)Harshitha N Anchan**
Address of Applicant :# 5-72A Sathyanarayana Kripa,Hejamadi, Udupi District,Udupi-574103, Karnataka, India. Udupi ---------- ----------
**6)Saikat Dutta**
Address of Applicant :Science Block, Room No. CY 610,Department of Chemistry, NITK, Surathkal, Dakshin Kannada District,Mangalore-575025, Karnataka, India. Mangalore ---------- ----------

(57) Abstract :
A Process of Preparing an Ultraviolet (UV) Protective Coating from Marine Food Bio-Waste Materials A process (100) of preparing Ultraviolet (UV) protective coating from marine food bio-waste materials is disclosed. The process (100) includes cleaning prawn shells, first under tap water and then with distilled water, sun-drying the cleaned prawn shells till all moisture contents are removed, subjecting the sun-dried prawn shells to a chemical treatment to extract the UV-absorbing amino acids. The process further includes dissolving calcium carbonate (i.e., demineralization) by continuous stirring in 6 N HCl at room temperature. The residue obtained in the demineralization process was transferred to a fresh batch of 6 N HCl to obtain a heterogeneous mixture. The process further includes refluxing the heterogeneous mixture at a predefined temperature for a predefined time to hydrolyze the protein into its constituent amino acids. The UV- absorbing amino acids are separated from a residue obtained after distillation, using ethyl acetate as an extractant. The resulting mixture along with suitable host material is then used to make a coating onto glass using either dip, spin, spray or brush coating techniques resulting the UV protective coating. <>

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