

Name of the Knowhow: UV Excitable Red Emissive Pigment to Disseminate the Highly Secured Fluorescent Features for Plywood

Summary: The Red emissive pigment has been synthesized in the laboratory using chemical method. The UV excitation wavelength red emissive pigment is 365 nm which emits red color at 610 nm wavelength. The Time-Resolved Photoluminescence (TRPL) is in the range of milliseconds. The following images show the optical images of the developed pigment in normal light and under 365 nm UV light source.

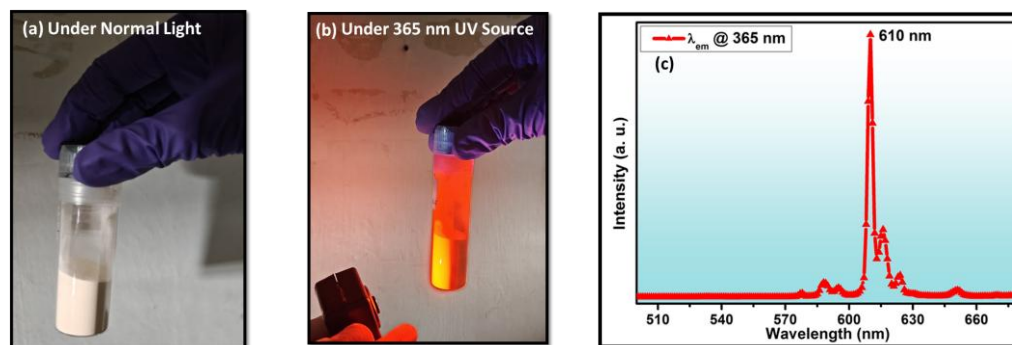


Figure 1: (a) Synthesized pigment under normal light, (b) under 365 nm UV light Source, (c) Emission spectra of synthesized pigment under excitation wavelength of 365 nm.

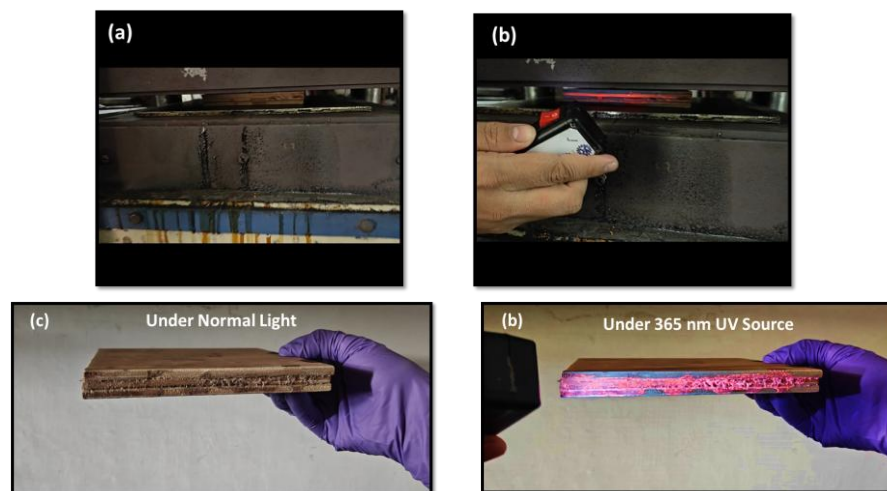


Figure 2: Plywood pressing after UF resin with pigment coating over plywood layers (a) under normal light, (b) under 365 nm UV light Source, UF resin with pigment coating over plywood layers (c) under normal light, (d) Coating on edges under 365 nm UV light Source.



Applications: Red emissive pigment could be utilized for marking security features for documents, merchandized items, goods and many more.

Novelty Features: Highly red emission with good quantum yield which is meagerly reported in any literature.

Advantages: The synthesized red emissive pigment could be used for producing highly secured features which could be easy to detect but difficult to counterfeit.

Technology Readiness Level:

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

IPR Details: Nil

Broad Area: Strategic Materials