Tunable Light Emitters using Carbon Quantum Dots

Research
A new technology has been developed for fabrication of solid-state lighting devices comprising luminescent carbon dots (C-dots) encapsulated in transparent polymer films. The simple one-step synthesis scheme yields luminescent films in which colors can be tuned by selection of the carbon dots embedded.

Goals and Benefits
• Simple and “green” technology for production of transparent luminescent films having different colors.
• Inexpensive and non-hazardous reagents. Technology is easily scalable.
• Generation of “warm” light, particularly warm white light is feasible.

Applications & Products
• Light emitting devices
• Light converters
• Light transformer sheets, for example in greenhouse applications

Patent Status
Patent applications pending.