

Title: Genome-wide molecular fingerprinting revealed identity and diversity of farmers' varieties in the Philippines

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Abstract

Tunable lasers are needed for research in the medical, engineering and basic science fields. Until recently, few optically pumped tunable lasers, such as fiber, Ti:sapphire and forsterite lasers, have been available. We found that conjugated polymers and oligomers were compatible and complementary materials that could perform better materials for solid-state laser media than laser dyes. The tunable, solid-state, conjugated-polymer laser is to design an efficient broadband tunable conjugated-polymer laser in solution. This was done for a green copolymer Poly[(9,9-dioctylfluorenyl-2,7-diyl)-co-(1,4-diphenylene-vinylene-2-methoxy-5-{2-ethylhexyloxy}-benzene)], also known as (PFO-co-PPV-MEHB). The polymer was studied using computer simulation and also experimental. A powerful and low-cost laser has plenty of applications; hence, a low-cost laser not only has high demand but also can create new opportunities in future applications. Oligomers are new materials with advantages such as low cost, high performance, and scalability. In that work, we designed a novel method of producing low-cost, efficient solid-state laser media using an oligomer embedded in a solid-state matrix made of many commercially available materials such as acrylic glue, AB resin, and EVA resin. In this background, a new laser is designed using an oligomer (BECV-DHF) as the active laser material.

Biography

Joanne D Caguiat is a Senior Science Research Specialist at Philippine Rice Research Institute (PhilRice). She has completed her Master of Science in Plant Breeding at the University of the Philippines, Los Baños. Currently, she is the Lead in four projects which aim to develop CMS-based three-line rice hybrids, augment line and varieties using RGA and genomic selection and gene mining of yield-related traits in Philippine landraces.