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8-HQCDCl₂H₂O as an organic Q-switcher in erbium laser cavity

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Abstract

This paper demonstrated a Q-switched erbium-doped fiber laser (EDFL) using an organic saturable absorber (SA) based on 8-HQCDCl₂H₂O material. The organic thin film was prepared using the casting process. The proposed Q-switched EDFL has a maximum repetition rate of 143 kHz, minimum pulse duration of 1.85 μs and the highest pulse energy of 167 nJ. The Q-switched peak laser was at a central wavelength of 1 531 nm with a 3 dB bandwidth of 3.52 nm and power intensity of 2.64 dBm. © 2023, Tianjin University of Technology.

Author Keywords

A

Index Keywords

Erbium, Fiber lasers, Pulse repetition rate, Q switching; A, Casting process, Erbium laser, Erbium-doped fiber lasers, High pulse energy, Organic thin-films, Organics, Pulse durations, Q-switched, Repetition rate; Saturable absorbers

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