

Light-Controlled Direction of Distributed Feedback Laser Emission by Photo-Mobile Polymer Films

Daniele Eugenio Lucchetta ^{1,*}, Andrea Di Donato ², Oriano Francescangeli ¹, Gautam Singh ³ and Riccardo Castagna ^{4,5,*}

¹ Dip. SIMAU, Università Politecnica delle Marche, Via Brecce Bianche, 60131 Ancona, Italy

² Dip. DII, Università Politecnica delle Marche, Via Brecce Bianche, 60131 Ancona, Italy

³ Department of Applied Physics, Amity Institute of Applied Sciences, Amity University, Uttar Pradesh, Noida 201313, India

⁴ URT-CNR, Università di Camerino (UNICAM), Polo di Chimica, Via Sant'Agostino, 1, 62032 Camerino, Italy

⁵ CNR, Institute of Heritage Science, Via Madonna del Piano, 10, 50019 Sesto Fiorentino, Italy

* Correspondence: d.e.lucchetta@staff.univpm.it (D.E.L.); riccardo.castagna@cnr.it (R.C.).

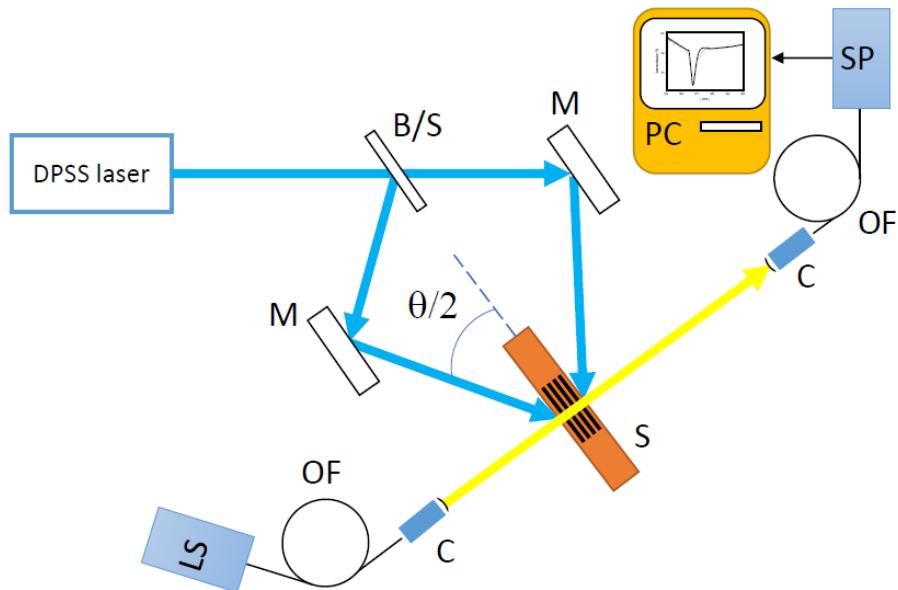


Figure S1. Schematic representation of the writing setup for the high resolution reflection gratings. B/S: beam splitter; M: mirror; LS: light source; OF: optical fiber; C: collimator; S: sample (holographic reflection grating); SP: spectrometer; PC: Personal Computer.

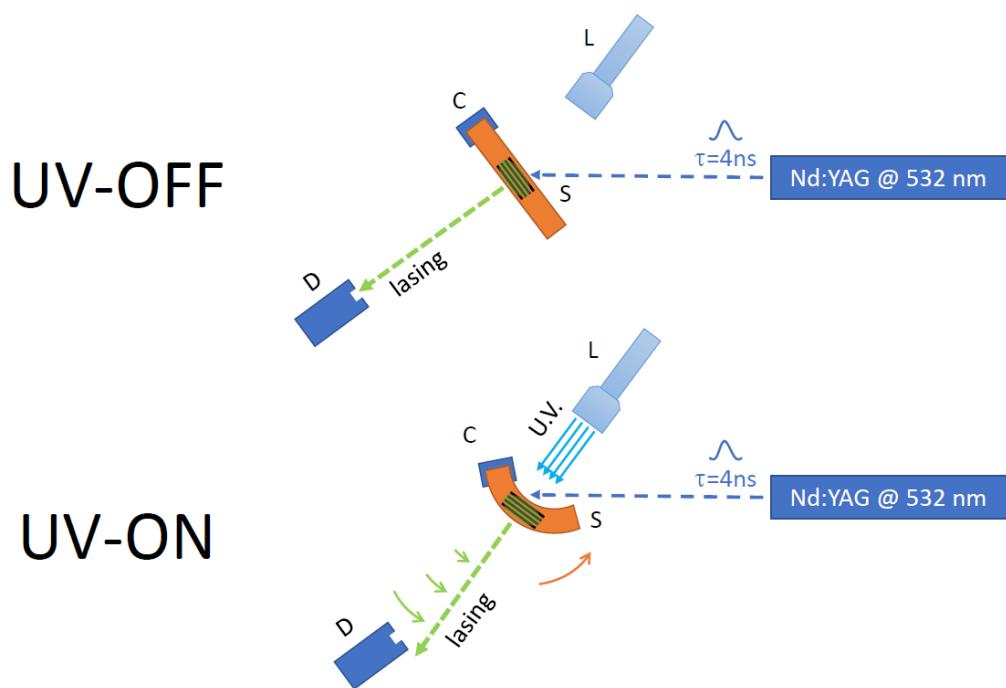


Figure S2. Schematic representation of the pumping setup and lasing action. S: sample (holographic reflection grating); C:PMP film clamping; D: photodetector; L= U.V. Lamp.

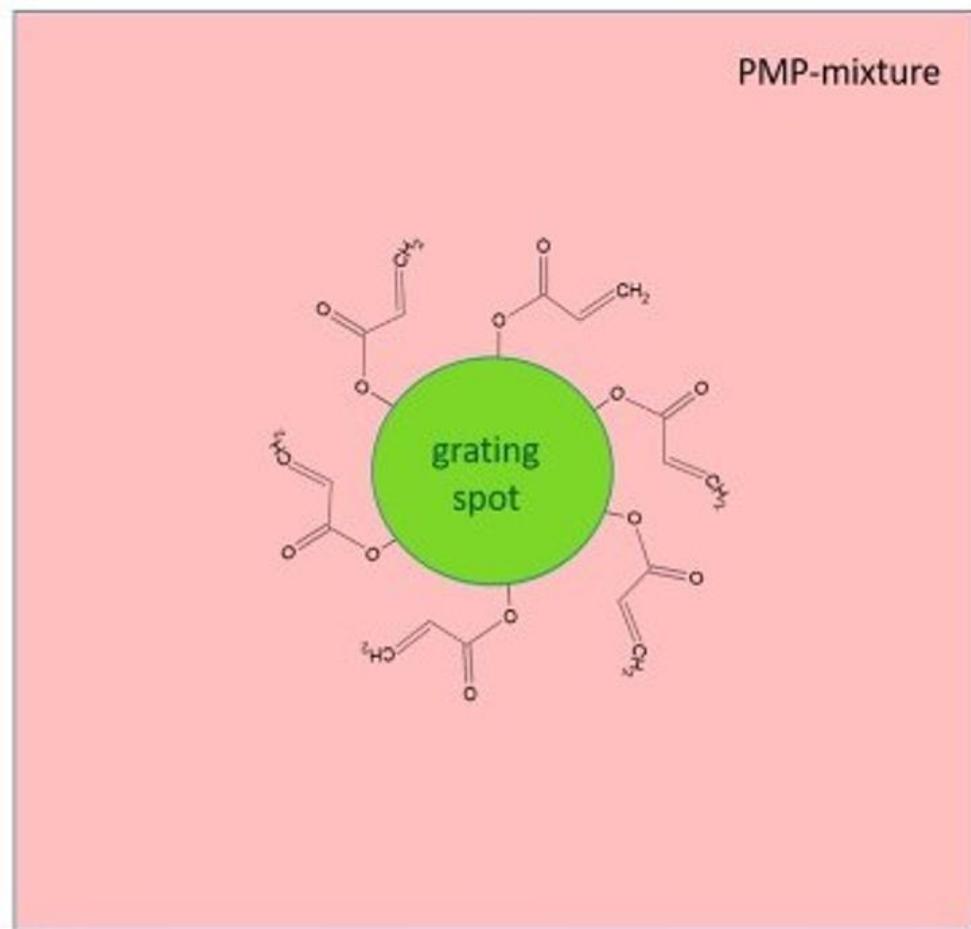


Figure S3. Schematic representation of the free acrylate functions surrounding the spot area.