

Supplement information

Tailoring the random lasing properties by controlled phase separation process in PMMA:PVK dye-doped polymeric blends

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Keywords: random laser, dye laser, polymeric blend, double-phase system, morphology, phase separation, waveguiding, quasi-waveguiding, PVK, PMMA, rhodamine 6G

Schemes of samples preparation and experimental setup used for random lasing experiments:

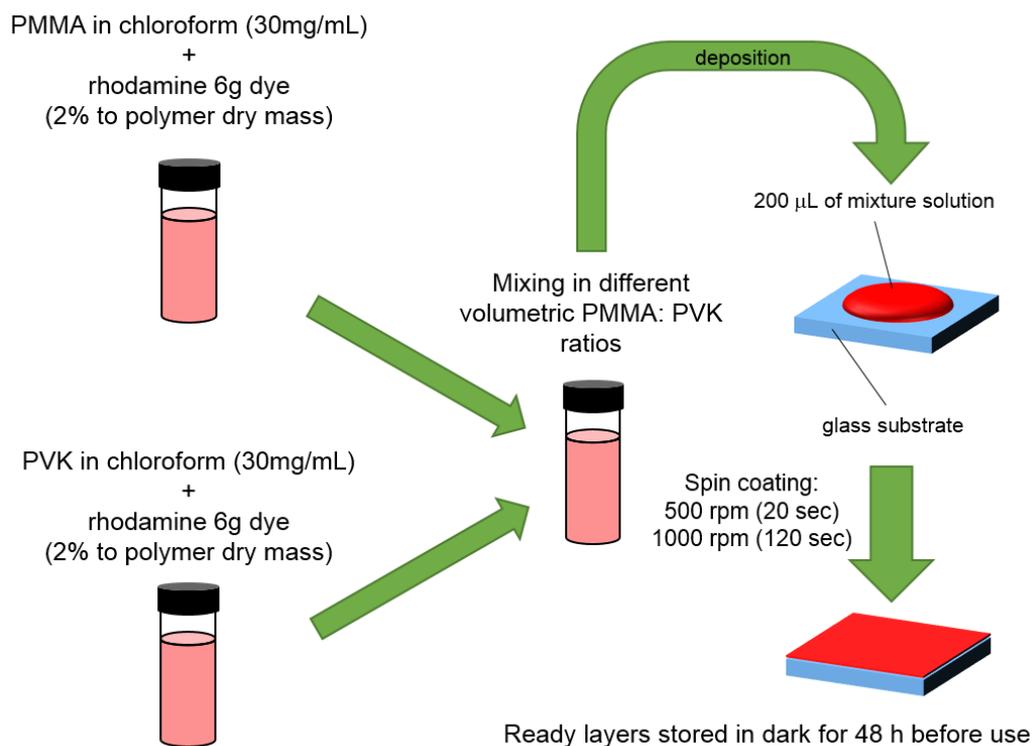


Figure S1. A scheme of the samples preparation procedure.

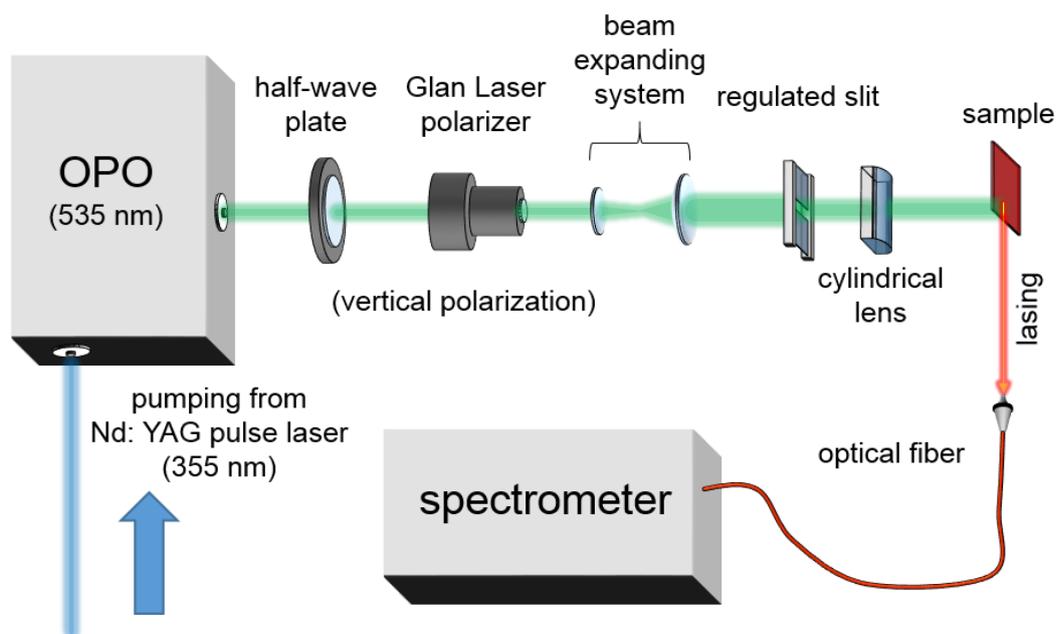


Figure S2. A scheme of the experimental setup used for random lasing experiments.

AFM images and surface profiles:

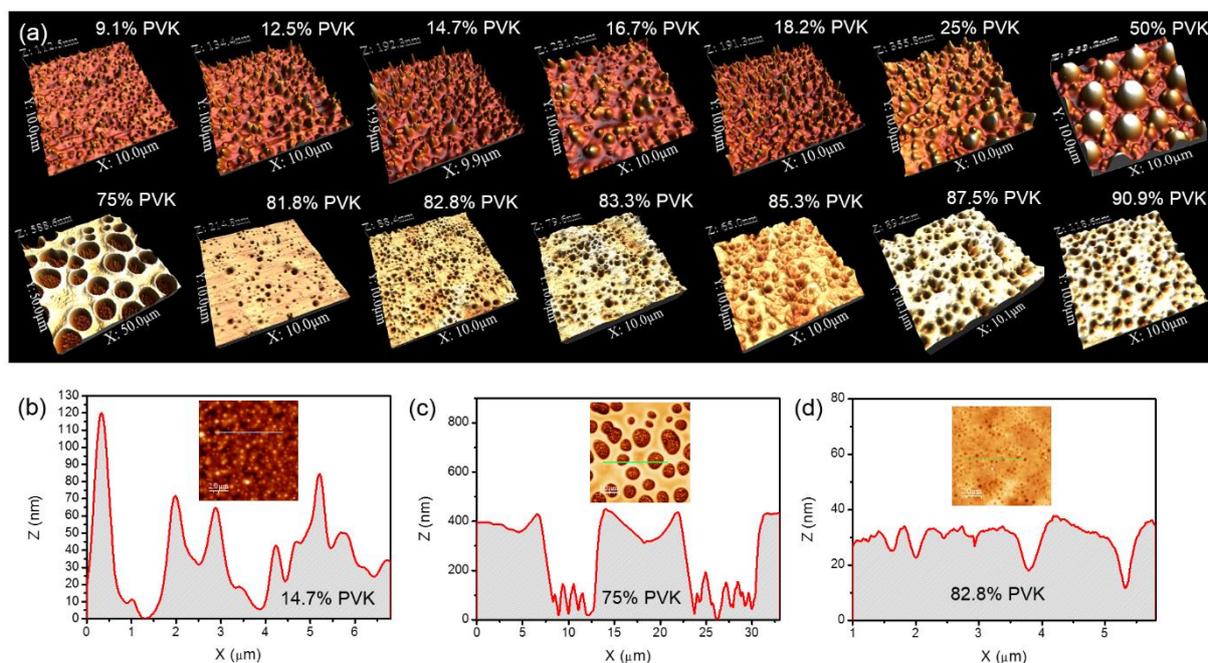


Figure S3. (a) 3D AFM images of PMMA:PVK blends with increasing PVK content. A comparison of exemplary surface profiles recorded for blends containing: (b) 14.7%; (c) 75%, and; (d) 82.8% of PVK.

Height histograms:

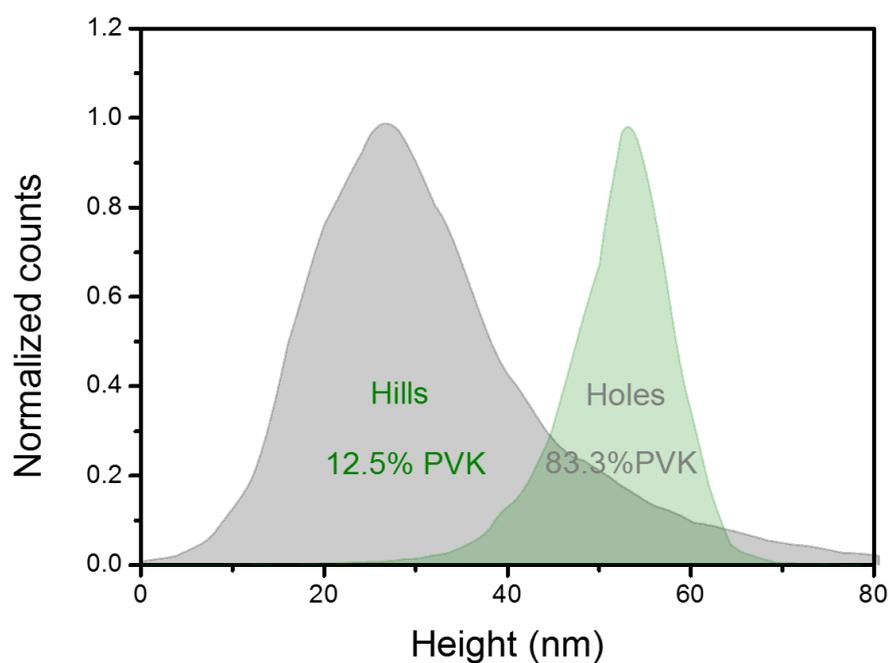


Figure S4. A comparison of height histograms shapes for samples dominated with hills (12.5% PVK) and holes (83.3% PVK).

Flooding maps

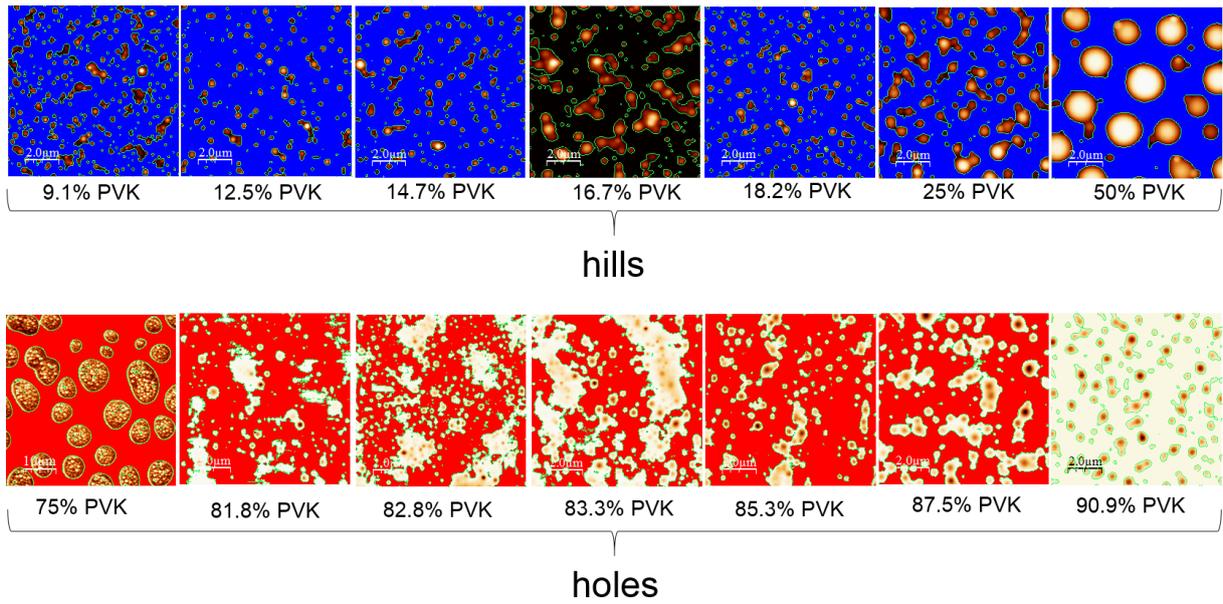


Figure S5. Flooding maps, used for the determination of NND parameters. The first row shows the position of hills, and the second row shows the position of holes.