

Supplementary Information

Nanosecond time-resolved characterization of a pentacene-based room-temperature MASER

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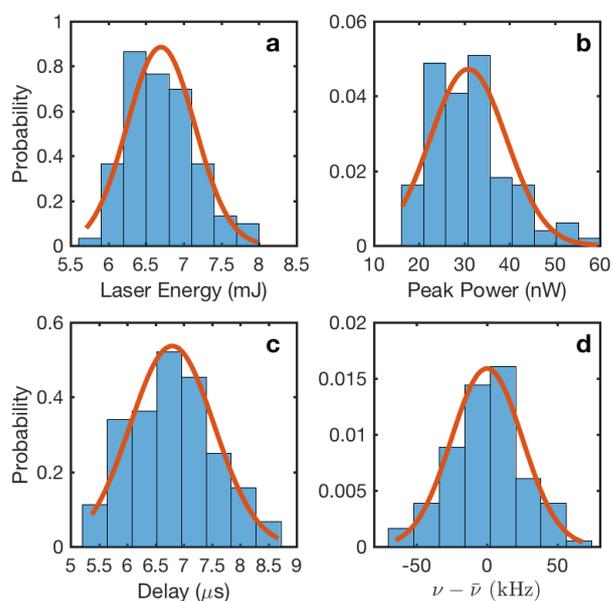
Supplementary Video 1. Real time single-shot MASER emission

Top panel: One hundred consecutive MASER emission time traces recorded at 3.3 mJ/pulse average laser energy and 2 Hz repetition rate, direct detection without signal averaging. The inset shows an enlargement of the signal and fitting to a sine function.

Middle panel: Frequency-power analysis of each MASER emission time trace (Matlab™ *spectrogram* function).

Bottom panel: Power output of each MASER emission time trace taken at the maximum of the frequency-power spectrum.

Supplementary Figure 1. Statistical analysis



Histograms of the distributions of (a) laser energy, (b) peak power, (c) delay and (d) frequency of MASER emission at 6.7 mJ/pulse pump energy. The red lines represent Gaussian fits. One-sample Kolmogorov-Smirnov tests confirm that none of the distributions deviate significantly from normality.