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Supplementary Information

Unparalleled sensitivity of photonic structures in butterfly wings

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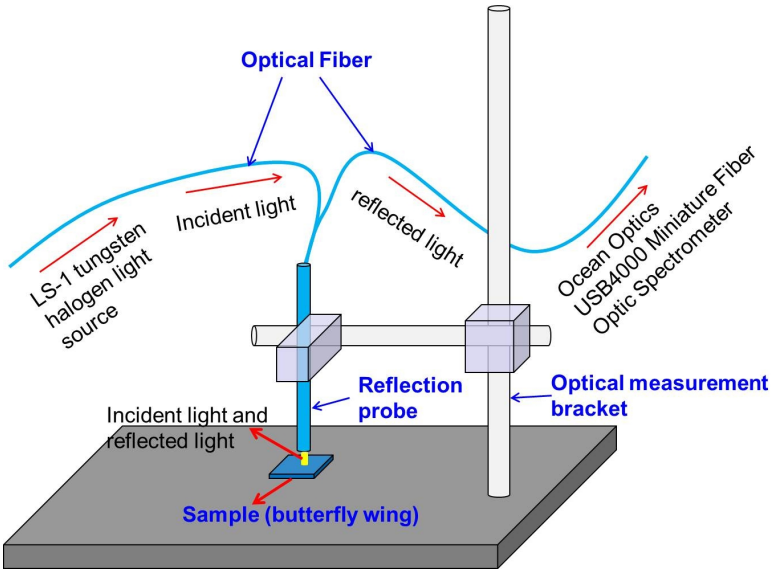

Fig. S1 Simplified experimental device and its working principle. Incident light is emitted from LS-1 tungsten halogen light source and transported by an optical fiber. Then, the incident light was irradiated on the sample of butterfly wing scales. The reflected light was captured and inputted by the optical fiber and transported into Ocean Optics USB4000 Miniature Fiber Optical Spectrometer. All the experimental device is composed of six parts: Optical measurement bracket, LS-1 tungsten halogen light source, Optical fiber, Reflection probe, Ocean Optics USB4000 Miniature Fiber Optic Spectrometer and the samples.

Table. S1 Concentrations of vapors of water, ether and ethanol

Vapors	Concentration 1 (p.p.m)	Concentration 2 (p.p.m)	Concentration 3 (p.p.m)	Concentration 4 (p.p.m)	Concentration 5 (p.p.m)
Water	**0.10**	**0.35**	**1.5**		
Ether	**0.15**	**0.40**	**0.70**	**1.55**	**1.71**
Ethanol	**0.15**	**0.46**	**0.80**	**1.57**	**1.75**