

Non-emissive colour filters for fluorescence detection

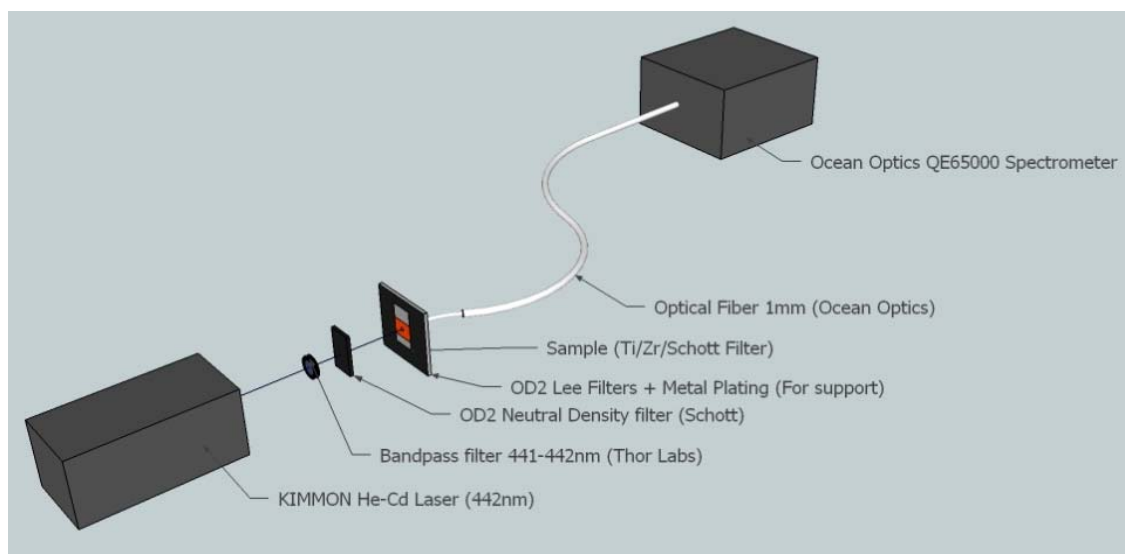
Electronic Supplementary Information

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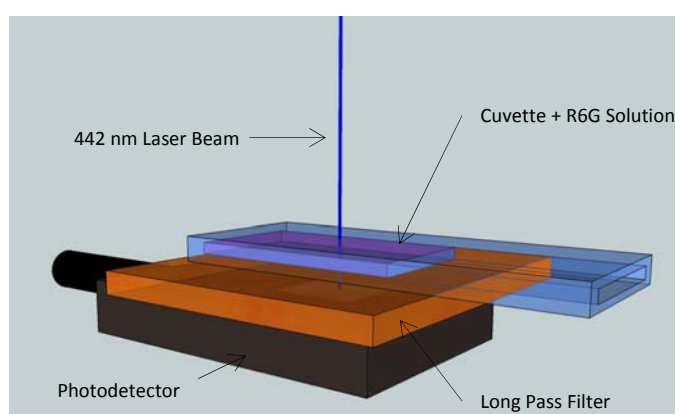
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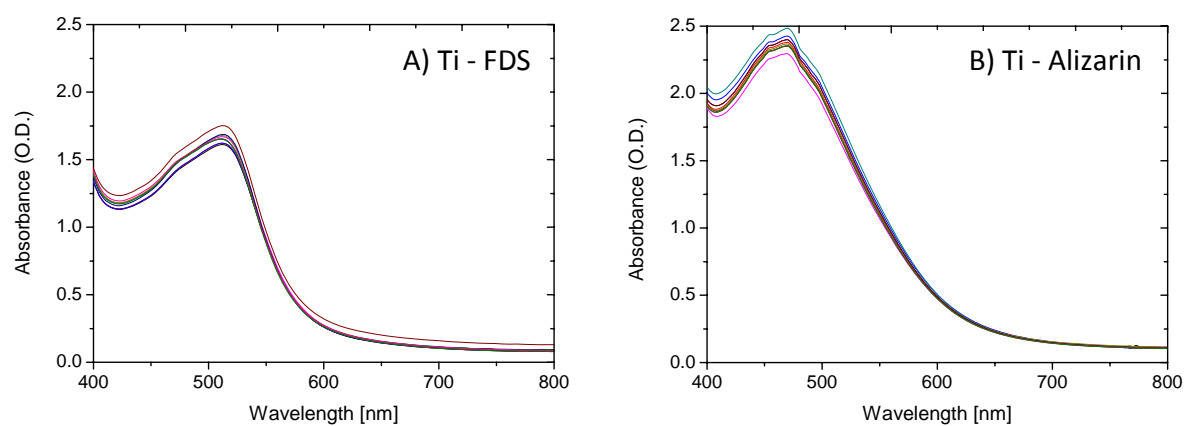
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ESI Fig. 1 – Schematic of configuration used for autofluorescence measurements. A 1.1 mW laser beam from a 442 nm HeCd laser is directed onto the front side of the filter and a fibre-optic coupled to a CCD spectrometer is placed against the rear-side of the filter immediately behind the laser spot, leading to collection of directly transmitted laser light and filter autofluorescence.



ESI Fig. 2 – Schematic of configuration used for concentration measurements. The 1.1 mW laser spot from a 440 nm HeCd laser and a silicon photodiode are positioned opposite one another on the front and back surfaces of a cuvette, with the long-pass filter tightly inserted between the rear of the cuvette and the photodiode, leading to collection of transmitted laser light, analyte fluorescence and filter autofluorescence.



ESI Fig. 3 Absorption spectra of 15 mm by 55 mm titania-based filters, sensitised with **(A)** FDS and **(B)** Alizarin. In each case, spectra were recorded at ten arbitrary locations distributed approximately uniformly across the area of the filter, using a mixture of orientations parallel and perpendicular to the length of the filter. The spectra were almost spatially invariant in terms of shape and differed in magnitude by $< \pm 5\%$. The titania scaffolds were deposited manually by screen printing and improved spatial uniformity of the filter characteristics would be expected using more sophisticated deposition techniques.