

Table S1. Colorimetric specification of target stimuli

Honeybee photoreceptor contrasts, relative intensity and colour distances of the ‘yellow’ and ‘blue’ stimuli considering two models of opponent processing showing stimuli were saliently different in colour for bee perception (Chittka, 1992; Backhaus, 1991; Avarguès-Weber et al., 2014); see Fig. 1 in main manuscript. Reflectance spectra from the coloured targets and background were measured between 300 and 800 nm at 0.7 nm intervals with a USB 2000 spectrophotometer (Ocean Optics, USA) connected to a deuterium-halogen DH-200 light source (Ocean Optics, USA) and a probe mounted at 45° by means of a bifurcated 200 μm optical fibre (Ocean Optics, USA). Reflectance profiles were measured relative to an lambertian, PTF WS-1 reflectance standard (Ocean Optics, USA). Ten readings, each one consisting of the average of 5 scans, were recorded for the targets and backgrounds and subsequently processed for obtaining mean reflectance profiles between 300 and 650 nm at 10 nm intervals (Fig. 1B, main manuscript) using custom-written code for Matlab release 2014b (The Mathworks, USA).

	‘yellow’	‘blue’
UV-Receptor	0.793	0.877
Blue-receptor	0.666	0.885
Green-receptor	0.786	0.618
Colour distance (COC units)	bckg: 3.45 blue: 7.00	bckg: 4.56
Colour distance (Hexagon units)	bckg: 0.123 blue: 0.263	bckg: 0.263

References

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- Backhaus, W. Color opponent coding in the visual system of the honeybee. *Vision Res* **31**, 1381–1397 (1991).
- Avarguès-Weber, A., d’Amaro, D., Metzler, M. & A.G., D. Conceptualization of relative size by honeybees. *Front Behav Neurosci* **8** (2014).