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Fig. S1. Normalized absorption spectra of carotenoids corresponding to the three peaks in chromatograms shown in Fig. 2 in the main text. The upper part of the figure shows molecular structures of deinoxanthin and its derivatives corresponding to the individual peaks in the chromatogram.



Fig. S2. Correction of absorption spectrum of SDBC for scattering. The measured absorption spectrum of SDBC is shown as a solid line. The increased absorption in UV is due to scattering in the sample. The scattering was corrected by subtraction of a simulated scattering curve (dashed line) that has been modeled as combination of Rayleigh $(1/\lambda^4)$ and Mie (polynomial function) scattering.



Fig. S3. Absorption spectra of deinoxanthin in methanol (red) and in SDBC (black). The absorption spectrum of SDBC is corrected for scattering (see Fig. S2). The spectra are shown in linear energy scale and absorption spectrum of deinoxanthin in methanol is shifted to match the absorption maximum of SDBC.