Supplementary Information: separation of UV, blue and green light at the level of the activity in the honeybee's photoreceptor neurons of the compound eye

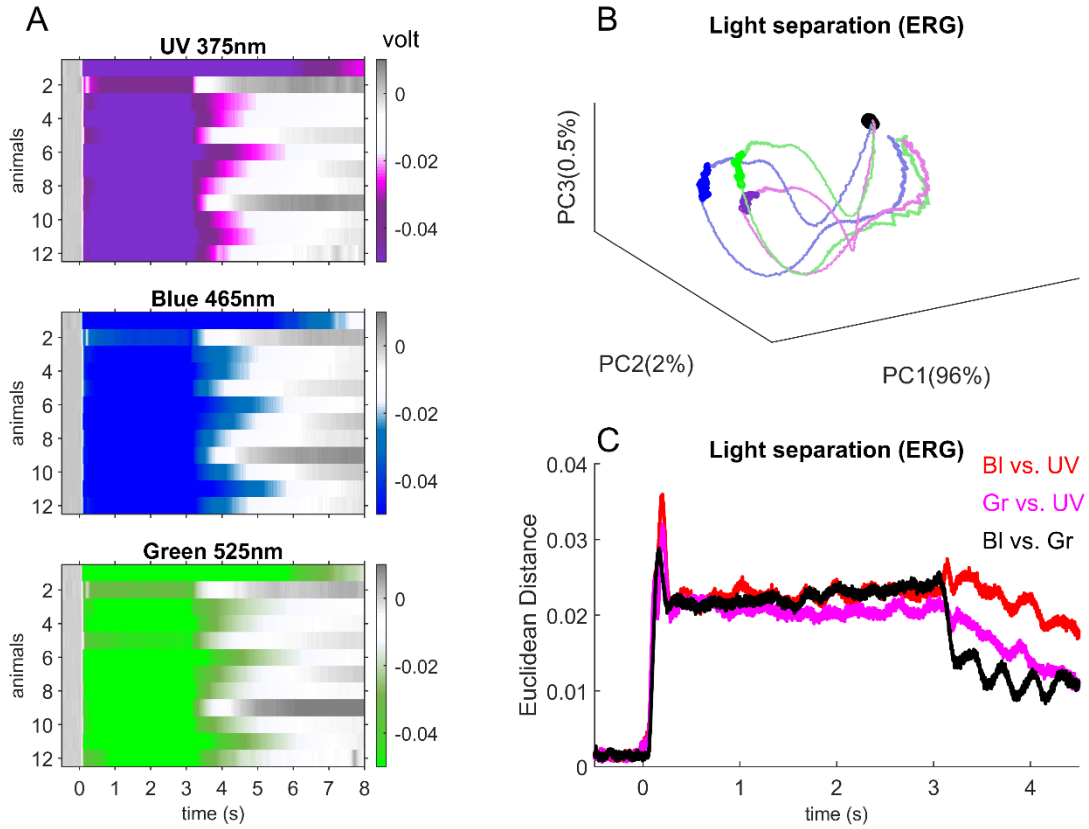

Figure S1: Stimulus separation by photoreceptor neurons in the bee's compound eye. Standard electro-retino-grams (ERG) were measured. Each stimulus was repeated 3 times in every animal**. A)** Averaged ERG activity of 12 bees in response to UV-light (upper panel), blue light (middle panel) and green light (lowest panel). Stimulation starts at time zero lasting for 3 seconds. **B)** Principal component analysis of the population vectors shown in **A** revealed a distinct representation of the different light stimuli. 500ms of baseline activity before stimulus onset are marked in black. The last two seconds of light stimulation is marked in thick lines using the same colour code as in A. **C)** Pairwise calculation of the Euclidean distances between the light induced population vectors shown in **A** revealed a pronounced differentiation by the recorded activity between all three light stimuli outlasting the entire stimulation time.