

***A Priori* Resolution of the Intermediate Spectra in the Bacteriorhodopsin Photocycle: The Time Evolution of the L Spectrum Revealed**

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Supporting information

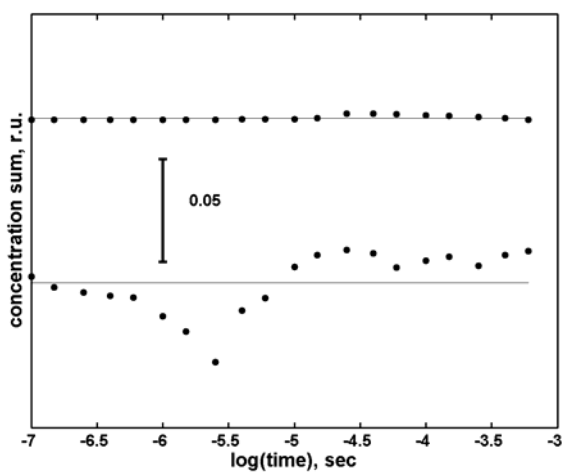


Figure 1S: Sum of the intermediate concentrations obtained by fitting the data with the spectra of **K**, **L₁**, **L₂**, **M** (top) and **K**, **L₂**, **M**, (bottom).

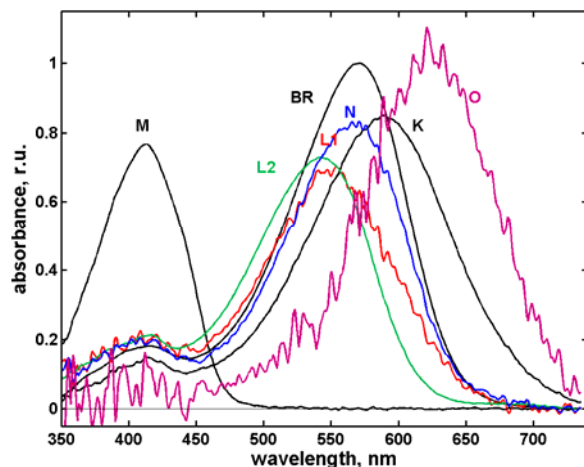


Figure 2S: Intermediate spectra obtained by **SVD-EFASM**. Note that the rather noisy **O** spectrum is due to the very low contribution of this intermediate at pH 6, 5°C (see Figure 3S). An **O** spectrum with a much higher S/N but similar shape was obtained from an experiment at 30°C, not shown here.

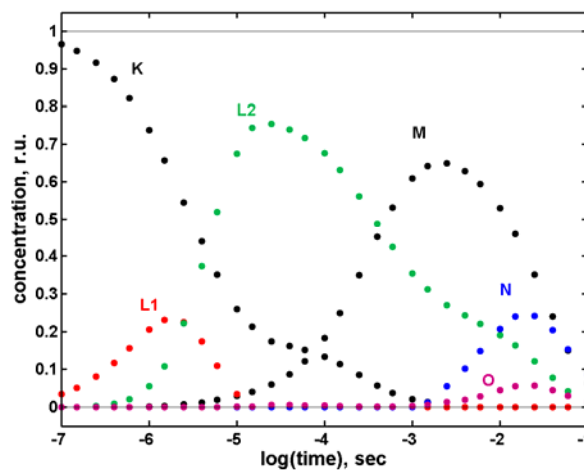


Figure 3S: Kinetics of the intermediates calculated by fitting the spectra provided by **SVD-EFASM** to the data. The kinetics are identical to those shown in Figure 5 for the first 20 points.