Supporting Information for

Stereoselective self-aggregation of synthetic zinc 3¹-epimeric bacteriochlorophyll-\textit{d} analogs possessing a methylene group at the 13²-position as models of green photosynthetic bacterial chlorosomes

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**Fig. S1** Visible absorption spectral changes of 1R (A), 1S (B), 2R (C), and 2S (D) in an aqueous 0.025%(wt/v) Triton X-100 micelle solution just after preparation (blue) and after standing for 1 day (red).
Fig. S2 Synthesis of zinc methyl mesopyropheophorbide-\(\alpha\) (5) and its \(13^2\)-methylenated derivative 6.
**Fig. S3** Visible absorption spectral changes of 5 (A) and 6 (C) in dry benzene (10 µM) by addition of pyridine and their curve fitting analyses (B) and (D).
Fig. S4 $^1$H-NMR spectrum of methyl 13<sup>2</sup>-methylene-bacteriopheophorbide-$d$ (4, 3<sup>R</sup>:3<sup>S</sup> = 1:1) in CDCl$_3$. 

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Fig. S5 $^1$H-NMR spectrum of zinc methyl $(3^1R)$-13$^2$-methylenebacteriopheophorbide-$d$ (2R) in CDCl$_3$–5% pyridine-d$_5$. 

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Fig. S6 $^1$H-NMR spectrum of zinc methyl (3$^1S$)-13$^2$-methylene-bacteriopheophorbide-$d$ (2$S$) in CDCl$_3$–5% pyridine-$d_5$. 
Fig. S7 $^1$H-NMR spectrum of zinc methyl 13$^2$-methylene-mesopyropheophorbide-$a$ (6) in CDCl$_3$. 

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