Electronic Supplementary Information for

Design, Synthesis and Biological Evaluation of Light-Driven On-Off Multi-target AChE and MAO-B Inhibitors

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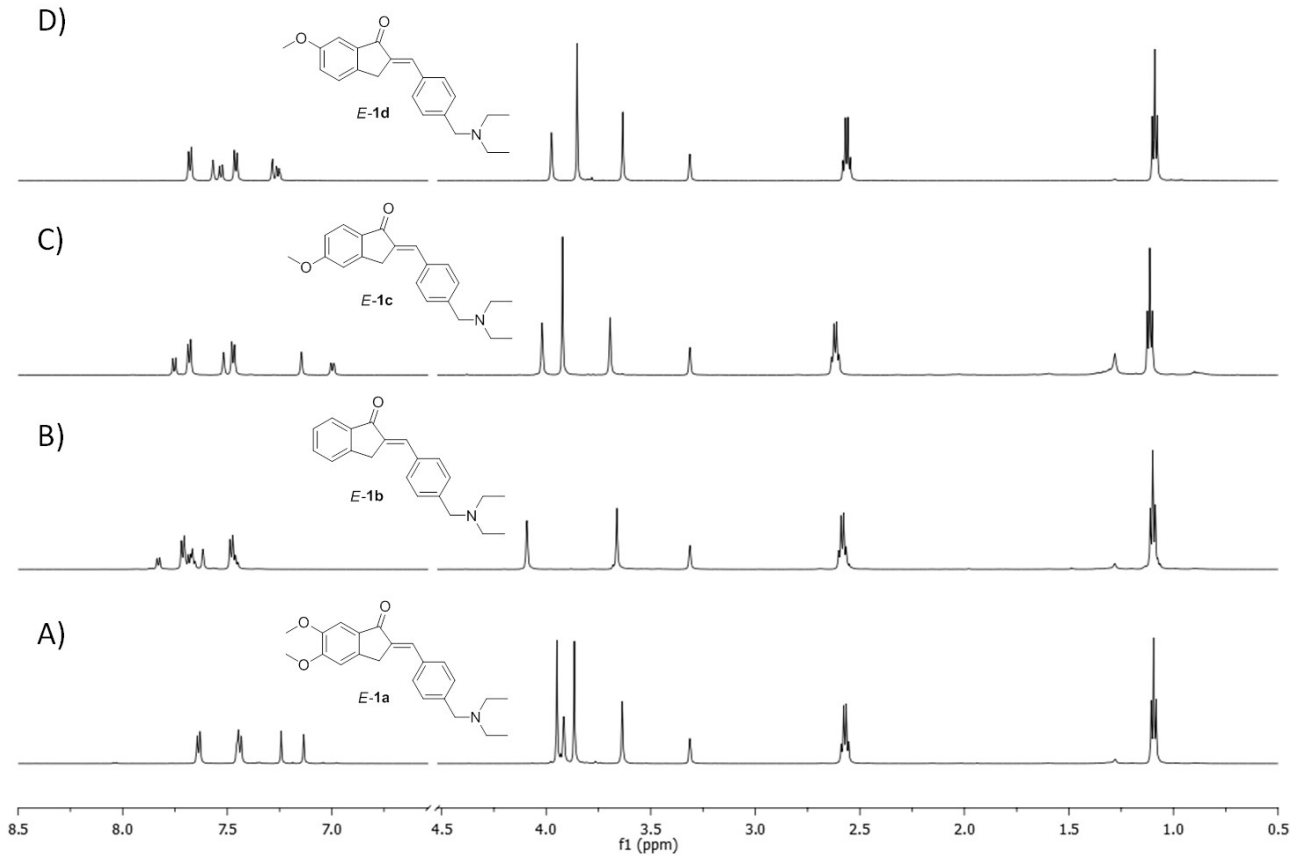

Figure S1. Comparison of the ^{1}H NMR spectra (CD_3OD, 600 MHz) of compounds A) *E*-**1a**, B) *E*-**1b**, C) *E*-**1c**, and D) *E*-**1d**.

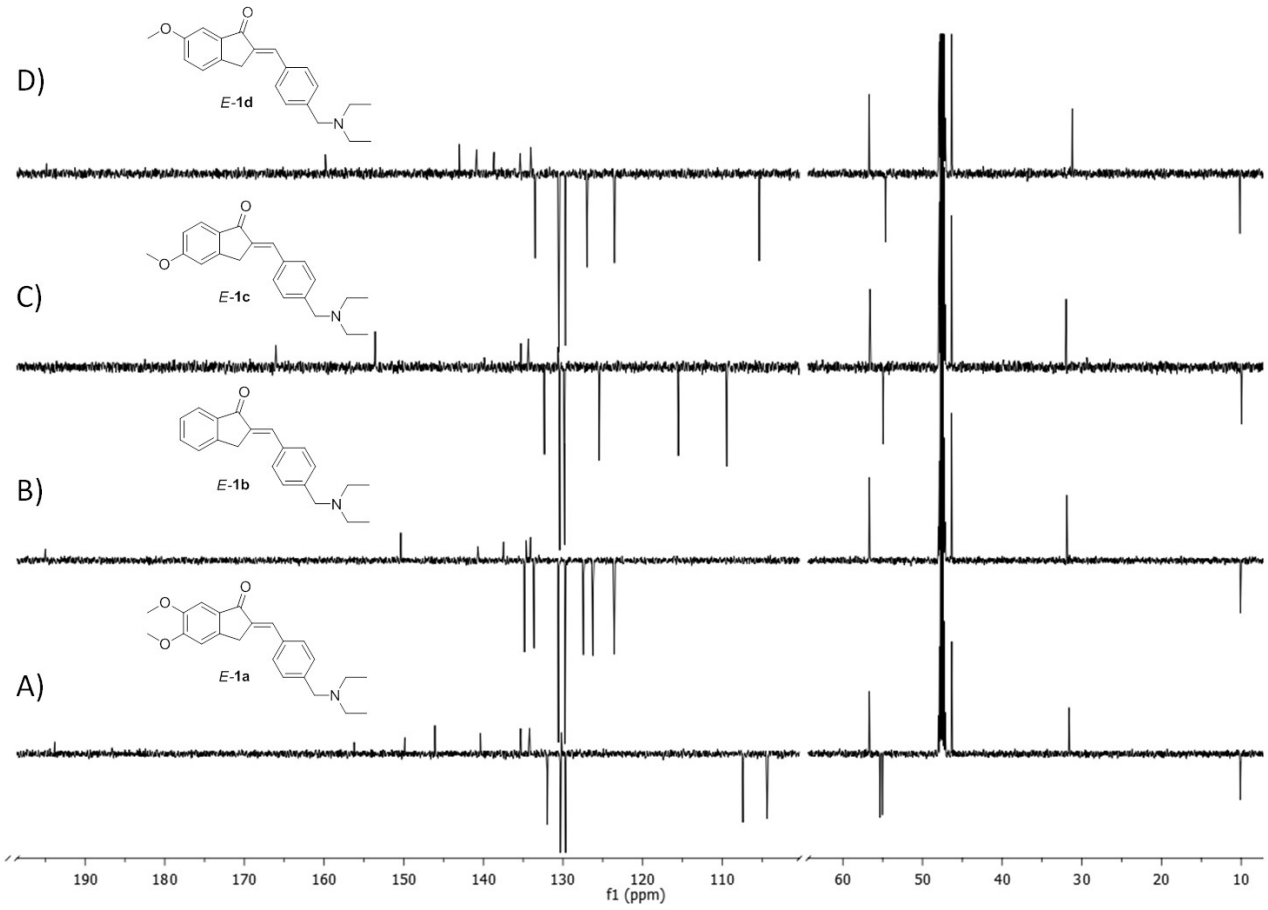

Figure S2. Comparison of the ^{13}C DEPT NMR spectra (CD_3OD, 150 MHz)) of compounds A) *E*-**1a**, B) *E*-**1b**, C) *E*-**1c**, and D) *E*-**1d**.

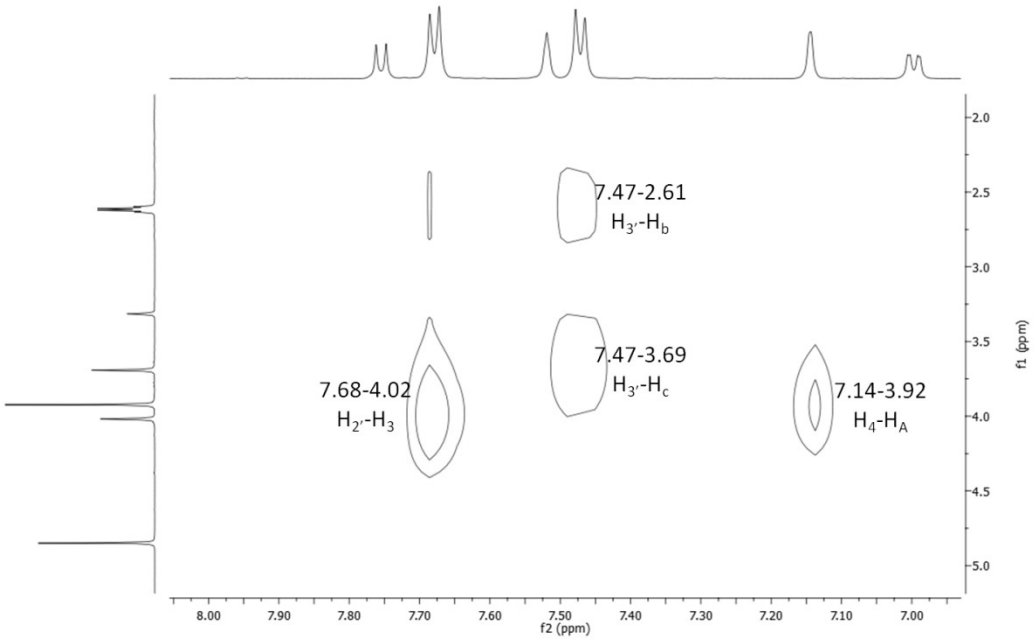

Figure S3. ^{1}H-^{1}H NOESY spectrum of compound *E*-**1c** (CD_3OD, 600 MHz).

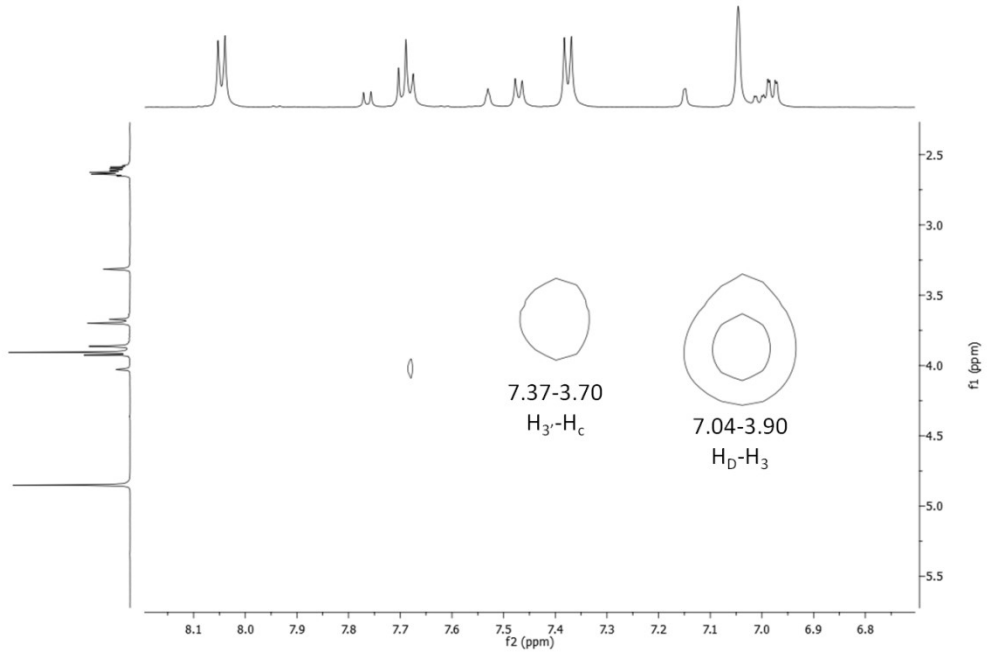

Figure S4. ^{1}H-^{1}H NOESY spectrum (CD_3OD, 600 MHz) of *E/Z* mixture of compound **1c** obtained after UV-B irradiation.

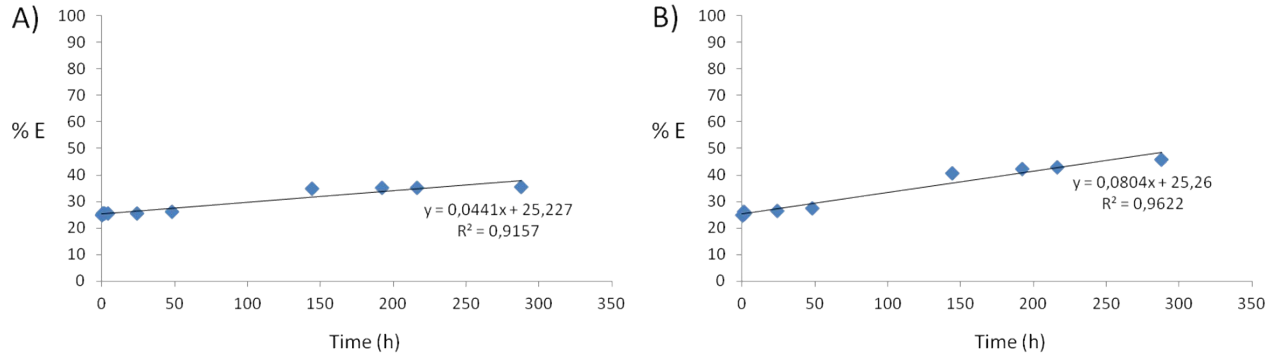

Figure S5. Kinetics of thermal returns of compound *Z*-**1c** (from a methanolic solution at PPS obtained by UV-B irradiation) at A) room temperature and B) 50 °C. The *E/Z* ratios have been determined by computing the area of the well distinguishable signals assigned to *E*- and *Z*-isomer in the ^{1}H NMR spectra.

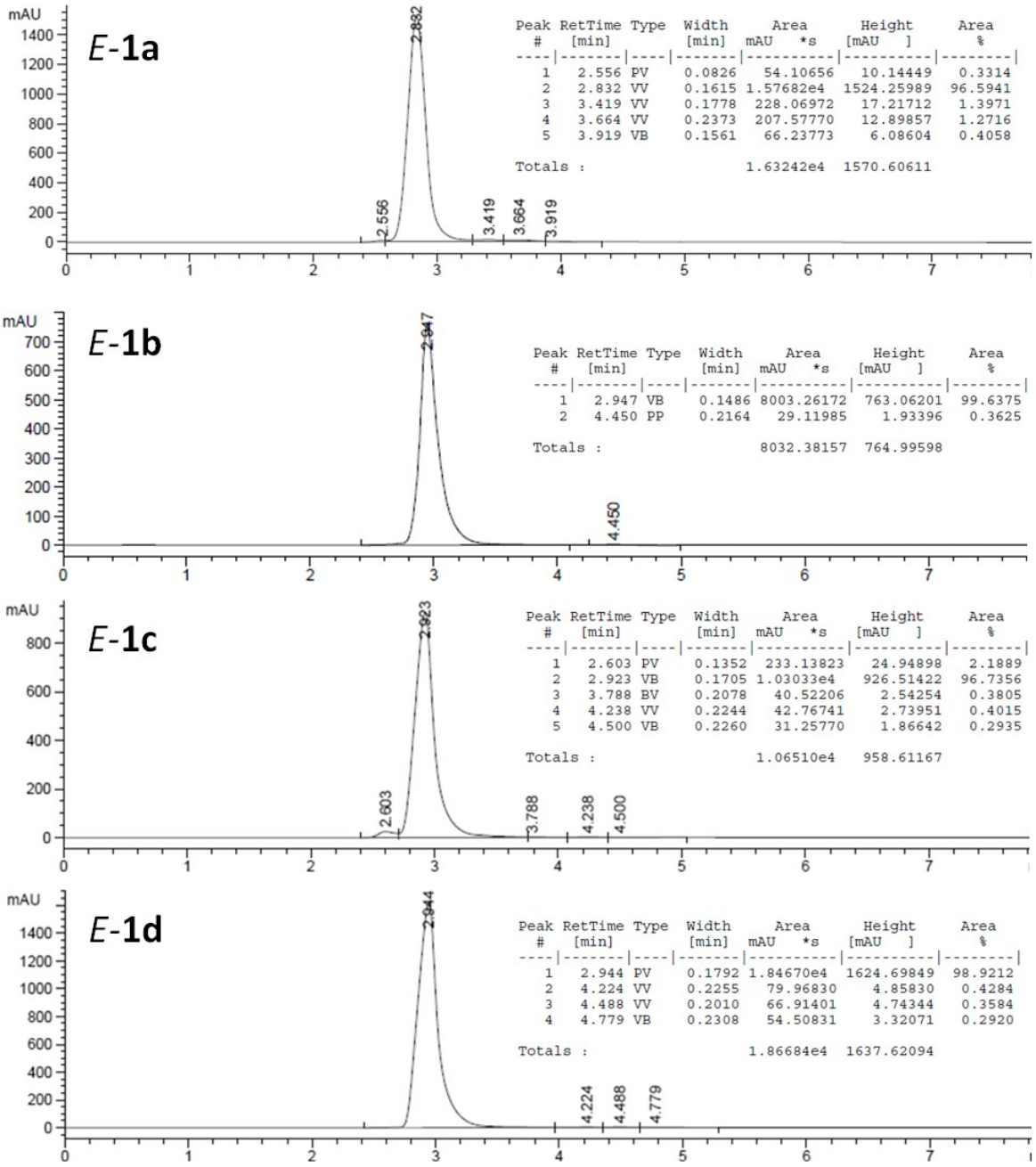

Figure S6. RP-HPLC traces of compounds *E*-**1a-d**. Purity of compounds was assessed using an Agilent 1100 quaternary pump HPLC apparatus equipped with a Zorbax Eclipse XDB-C8 5µ (150×4.6 mm). Methanol-H_2O (0.1% formic acid) 80/20 v/v at flow 0.5 mL/min was used as the mobile phase and absorbance at 280 nm has been used for the detection.

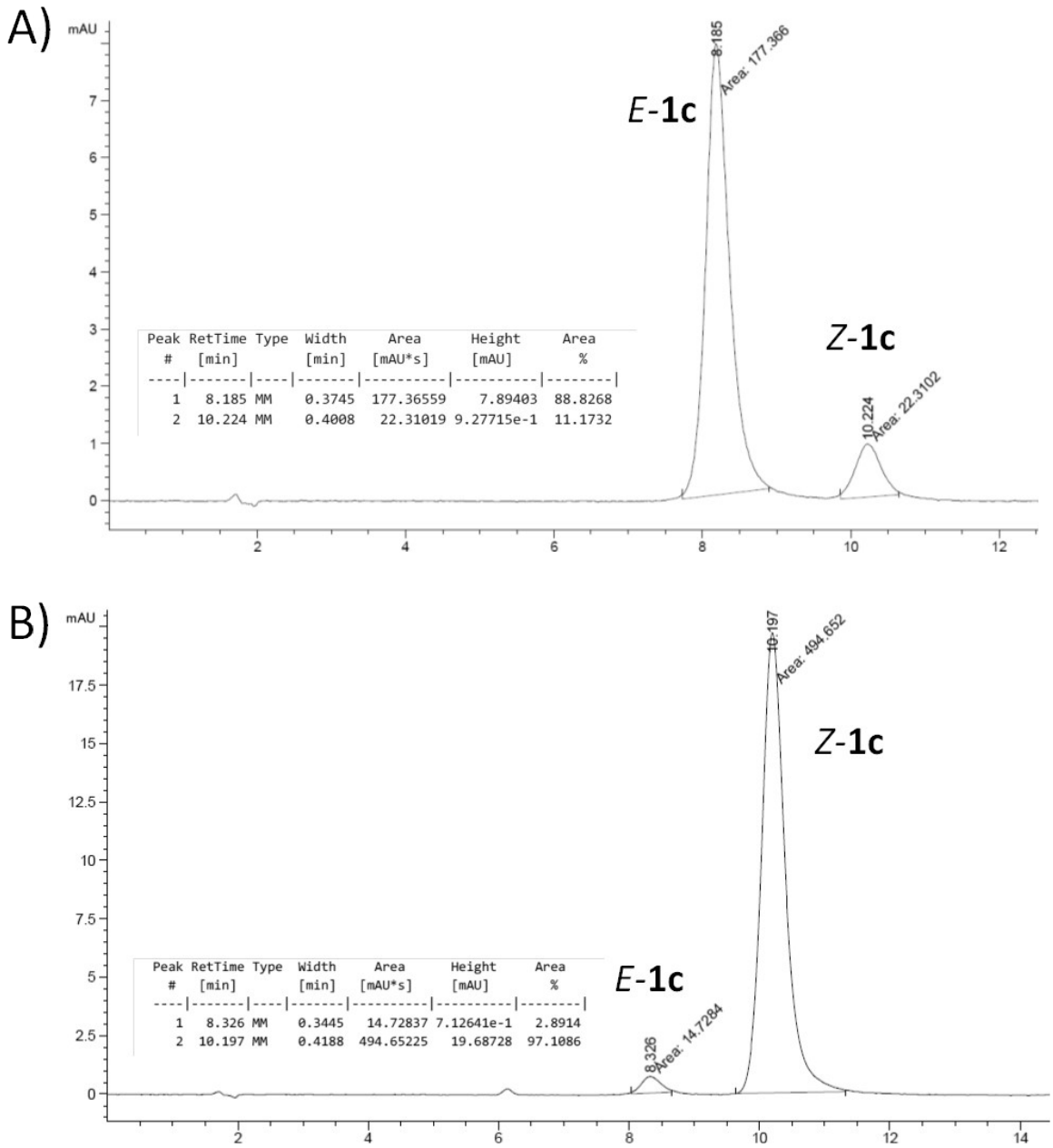

Figure S7. Qualitative analysis of the (A) *E* and (B) *Z* diastereomers of compound **1c** after separation from the *E/Z* mixture. An Agilent 1260 binary pump HPLC apparatus, equipped with a Phenomenex Synergi C18 Fusion-RP 4µ (150×4.6 mm) has been used. Mobile phase ammonium formate (50 mM, pH 3.5)/methanol 1/1 v/v mixtures, flow 1 mL/min, UV detection with DAD at 330 nm.

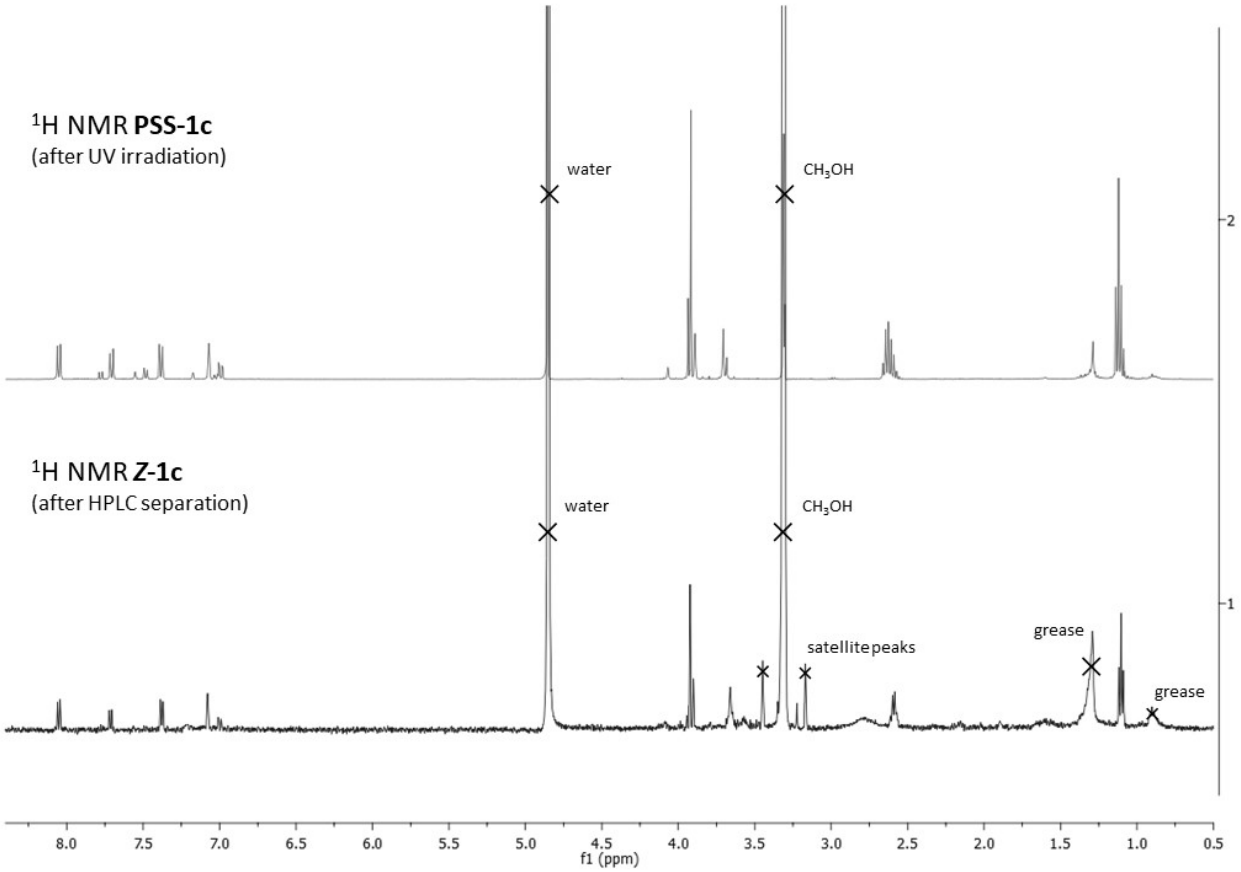

Figure S8. Comparison of the ^{1}H NMR spectra of **1c** *E/Z* mixture at PSS obtained by UV-B irradiation (up) and *Z*-**1c** isolated from the *E/Z* mixture by RP-HPLC (down).