# Supporting Information

# PD-E2: A nano-scaled delivery for estradiol to decrease uterus damage and increase bone benefit of the hormone replacement therapy

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## Experimental section

## 1. NMR and MS spectra of PD-$E_2$

### 1.1. $^1$H NMR

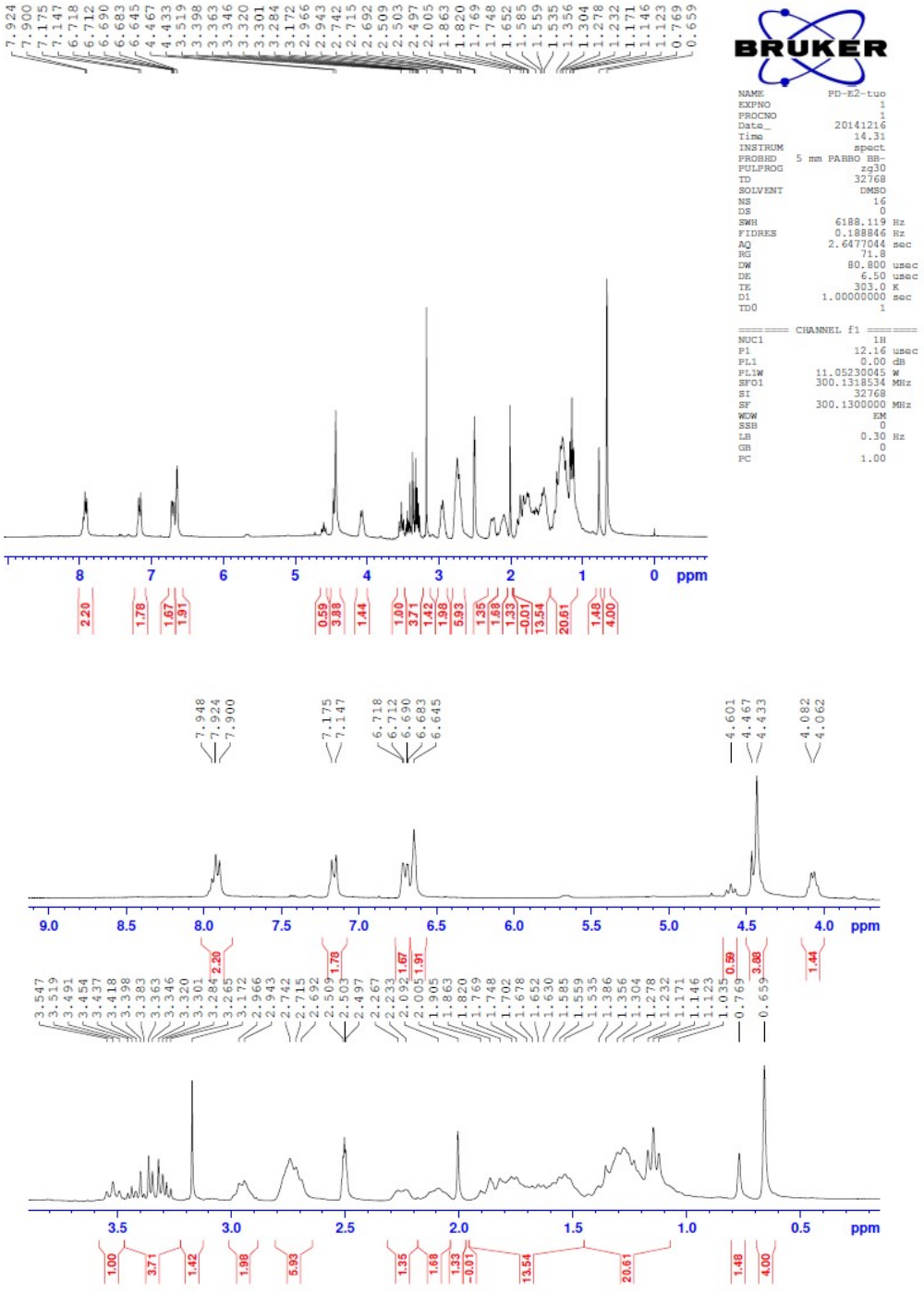


**Fig. S1** $^1$H NMR spectrum of PD-E2.

### 1.2. NOESY 2D $^1$H NMR

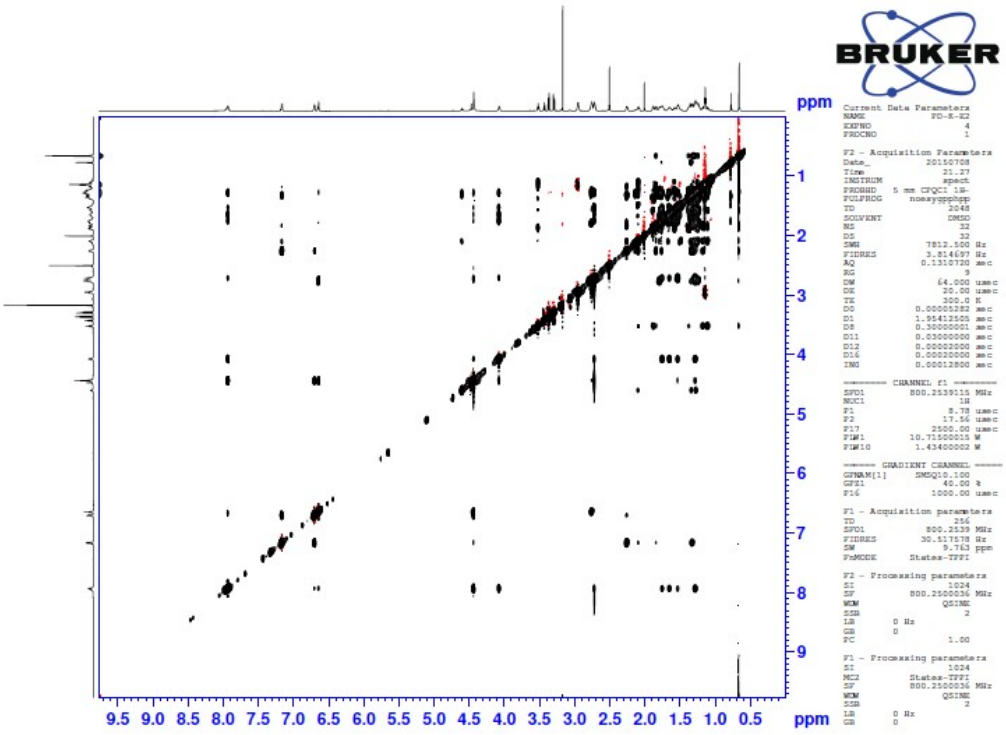


**Fig. S2** NOESY 2D $^{1}$H NMR of PD-E2.

## 1.3. $^{13}$C NMR

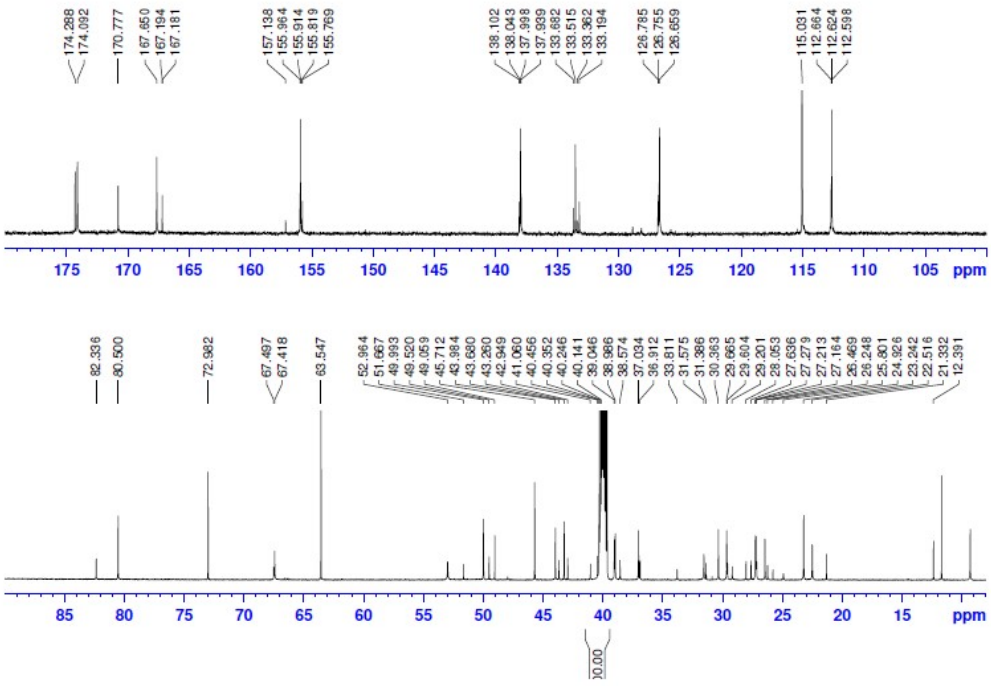


**Fig. S3** $^{13}$C NMR spectrum of PD-E2.