Supporting Information for:

Strictly Alternating Sequences when Copolymerizing Racemic and Chiral Acetylene Monomers with an Organo-Rhodium Catalyst

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Figure S1. a) $^1$H spectra of rac1, R1, S1 and b) $^{13}$C NMR spectra of rac1, R1, S1.
Figure S2. $^1$H NMR spectrum of PS1 observed at 30 °C in CDCl$_3$. 
Figure S3. a) Newman like perspective view of rotamers, \( A \), \( B \), and \( C \). b) An accordion like helical oscillation (HELIOS) of PSI with \( \beta \)-Helix composed from the rotamers, \( A \), \( B \), and \( C \) sequences.
Figure S4. 920 MHz NOESY NMR spectra of *PracI* expanded in the range of 4.2–3.2 ppm observed at 40 °C in CDCl₃.
Figure S5. Side view of Prac1 with P-Helix which shows geometrical and spatial relations, i.e., (a and c) proton pair, and (b and d) proton pair between the n th unit and n+3 th unit in the helical main chain.
Figure S6. $^{13}$C NMR spectra of a) PR1 and b) PS1 observed at 40 °C in CDCl$_3$. 
Figure S7. The three rotamer models depicted using the so-called Newman projection in the side chain of PS1.
Figure S8. Top and side perspective model structures of $M$- and/or $P$-Helix models in $PR1$, $PS1$, and $Prac1$. 