Electronic Supplementary Information (ESI)

for

One-Pot Synthesis of End-Functionalised Soluble Star-Shaped Polymers by Living Ring-Opening Metathesis Polymerisation Using Molybdenum-Alkylidene Catalyst

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Selected NMR spectra for the resultant polymers.
Selected NMR spectra for the resultant polymers.

**Figure S1.** $^1$H NMR spectrum (in CDCl$_3$ at 25 °C) of star-shaped polymer (Table 1, run 12).

$^1$H NMR (in CDCl$_3$ at 25 ºC): $\delta$ 5.35 and 5.21 (br.s, 2H olefinic), 2.79 and 2.43 (br.s, 2H), 1.85 and 1.03 (m,2H), 1.78 and 1.36 (m, 4H) ppm. Moreover, resonances ascribed to pyridine end group [8.54 and 8.50 (d) ppm] were also observed.

**Figure S2.** $^1$H NMR spectrum (in CDCl$_3$ at 25 °C) of star-shaped polymer (Table 1, run 23).

$^1$H NMR (in CDCl$_3$ at 25 °C): $\delta$ 5.35 and 5.21 (br.s, 2H olefinic), 2.79 and 2.43 (br.s, 2H), 1.85 and 1.03 (m,2H), 1.78 and 1.36 (m, 4H) ppm. Moreover, resonances ascribed to thiophene end group [7.00-7.40] were also observed.
**Figure S3.** $^{13}$C NMR spectrum (in CDCl$_3$ at 25 °C) of star-shaped polymer (Table 1, run 12).

$^{13}$C NMR (in CDCl$_3$ at 25 °C): $\delta$ 133.9, 133.0, 128.2, 43.1, 38.6, 33.2, 32.2 ppm.