Supplementary Information

SI-1: Further analytical data for deactivation product 1, DP-1.

EDX:
Grubbs catalyst as a reference: grey graph.

DP-1: black graph.
SI-2: Analytical data for decomposition product 2; DP-3.

$^{13}$C-NMR:

(a) benzaldehyde as a reference; (b) DP-3; (c) PCy$_3$ as a reference.
$^1$H-NMR:

Benzaldehyde as a reference

$^3$P-NMR:

δ/ [ppm]
SI-3: Analytical data for decomposition product 4; DP-4.

$^1$H-NMR

$^{13}$C-NMR:
$^{31}$P-NMR:

EDX-spectrum
**FAB-MS:**

![FAB-MS Graph](image)

**ESI-MS:**

![ESI-MS Graph](image)

$^{31}P$-NMR:

Grubbs catalyst

after infiltration in silylated material

δ/ [ppm]