ESI

Efficient catalytic activation of Suzuki Miyaura C–C coupling reactions with recyclable palladium nanoparticles tailored with sterically demanding di-n-alkyl sulfide

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S1. Immobilisation of 4-Bromobenzoic Acid on Silica

4-Bromobenzoic acid (1.99 g, 10 mmol) was refluxed with freshly distilled SOCl₂ (20 mL) for 3 h. Thereafter the solution was cooled and thionyl chloride was evaporated off to give 4-bromobenzoyl chloride as a white solid. 3-Aminopropyl trimethoxysilane-modified silica

![Scheme S1. Immobilisation of 4-Bromobenzoic Acid on Silica](image)

(1.00 g, Aldrich), pyridine (0.404 mL), dry THF (10 mL) and 4-bromobenzoyl chloride (1.150 g, 5.25 mmol) were stirred at 40 °C for 12 h in a round bottom flask under a N₂ atmosphere. The suspension was filtered through G-4 crucible and washed with 5% (v/v) HCl (3 × 20 mL) followed by 0.02 M aqueous K₂CO₃ (2 × 20 mL) and rinsed with distilled water (40 mL) and ethanol (40 mL). The resulting solid was washed with excess dichloromethane and dried at room temperature in air, resulting in white powder.
Reference

Figure S1. $^1$H NMR Spectrum of Ligand (L1)

Figure S2. $^{13}$C{$^1$H} NMR Spectrum of Ligand (L1)
Figure S3. $^1$H NMR Spectrum of 1

Figure S4. $^{13}$C{$^1$H} NMR Spectrum of 1
Figure S5. SEM Image Pd NPs 2

Figure S6. SEM image Pd NPs 3
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Figure S8. SEM image Pd NPs 5
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Figure S15. SEM–EDX of Pd NPs
Figure S16. SEM–EDX of Pd NPs 6
Figure S17. SEM–EDX of Pd NPs 7
Figure S18. SEM−EDX Pd NPs obtained during Suzuki reaction of complex 1
Figure S19. Powder XRD pattern of L1

Figure S20. Powder XRD pattern of 2
Figure S21. Powder XRD pattern of 3

Figure S22. Powder XRD pattern of 4
Figure S23. Powder XRD pattern of 5

Figure S24. Powder XRD pattern of 6
Figure S25. Powder XRD pattern of 7

Figure S26. Size distribution graph of NPs 2
Figure S27. Size distribution graph of NPs 3–4

Figure S28. Size distribution graph of NPs 6 and 7

Figure S29. Images of solutions of Pd NPs in CHCl₃ (2, 3, 6, and 4 respectively)