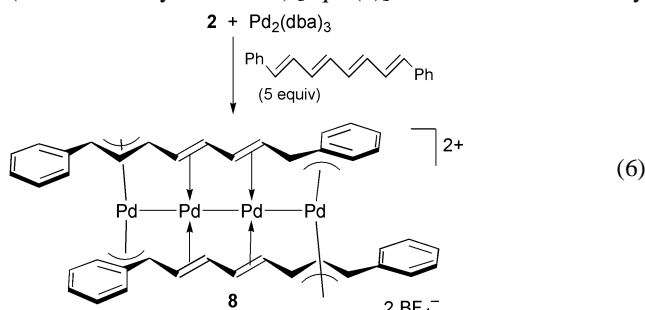




(76% after recrystallization) [eqn. (6)] without formation of any



palladium black which was formed in considerable amounts in the previous method from **1**, 1.5 equiv. of Pd<sub>2</sub>(dba)<sub>3</sub> and tetraene.

In summary, we have prepared the first homoleptic nitrile dipalladium(i) complex **2**. The nitrile ligands in **2** were proven to be substitutionally labile with the Pd–Pd bond remaining intact. Applications of **2** to catalysis as well as being a potential versatile building block towards palladium clusters are now under investigation.

## Notes and references

‡ To a solution of [Pd(CH<sub>3</sub>CN)<sub>4</sub>][BF<sub>4</sub>]<sub>2</sub> (1.00 g, 2.25 mmol) in CH<sub>3</sub>CN (50 mL) was added Pd<sub>2</sub>(dba)<sub>3</sub>·CHCl<sub>3</sub> (1.17 g, 1.13 mmol) and CH<sub>2</sub>Cl<sub>2</sub> (50 mL). The mixture was stirred for 1 h at room temperature. The reaction mixture was filtered and poured into dry Et<sub>2</sub>O to give an orange precipitate. After washing with Et<sub>2</sub>O several times, **2** was obtained in 90% yield (1.28 g, 2.02 mmol). IR (Nujol): ν<sub>C≡N</sub> 2331, 2307, 2282 cm<sup>-1</sup>. Anal. Calc. (Found) for Pd<sub>2</sub>C<sub>12</sub>H<sub>18</sub>N<sub>6</sub>B<sub>2</sub>F<sub>8</sub>: C, 22.78 (22.65); H, 2.87 (2.92); N, 13.28 (13.03%).

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