

A Discrete Dinuclear Molecular Rectangle: Synthesis and structure of [*trans*-Pd(CN₄-C₆H₄-N=C=N)(PMe₃)₂]₂

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Pd(PMe₃)₂(N₃)₂ reacted with 1,4-phenylene diisocyanide (NC-C₆H₄-NC) in nitromethane at room temperature to give a discrete dinuclear Pd(II) compound, [*trans*-Pd(CN₄-C₆H₄-N=C=N)(PMe₃)₂]₂, which shows a distorted rectangle. Interestingly, in this reaction, the diisocyanide showed two independent reactivities toward the azido (N₃) ligands: (1) [2 + 3] cycloaddition to give a C-bonded tetrazole (CN₄) fragment and (2) coupling with the liberation of N₂ to give a NCN fragment. The title compound crystallizes in the triclinic space group *P*1, *a* = 8.801(1), *b* = 9.512(1), *c* = 11.994(1), α = 99.348(8), β = 103.730(8), γ = 90.982(9), *Z* = 1.

