

Di- and Trifluorobenzenes in Reactions with Me₂EM (E = P, N; M = SiMe₃, SnMe₃, Li) Reagents: Evidence for a Concerted Mechanism of Aromatic Nucleophilic Substitution

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In Table 6 of the original article,^[1] the data given for compound **12** are wrong, the new Table 6 below contains the correct data for **12**.

The Authors

Table 6. Experimental and X-ray crystallographic data for compounds **12**, **18**, **19** and **21–23**.

	12	18	19	21	22	23
Empirical formula	C ₈ H ₆ F ₂ PS	C ₁₆ H ₂₀ Cl ₂ F ₂ P ₂ Pd	C ₁₆ H ₁₈ Cl ₂ F ₄ P ₂ Pd	C ₁₆ H ₁₈ Cl ₂ F ₄ P ₂ Pd·CHCl ₃	C ₁₈ H ₁₂ Cl ₂ F ₁₄ P ₂ Pd	C ₁₆ H ₂₀ Cl ₄ F ₂ P ₂ Pd ₂
Formula weight	206.18	489.56	525.54	644.91	733.52	666.86
Temperature [K]	173(2)	173(2)	173(2)	173(2)	173(2)	173(2)
Radiation [Å]	Mo-K _α (0.71073)	Mo-K _α (0.71073)	Mo-K _α (0.71073)	Mo-K _α (0.71073)	Mo-K _α (0.71073)	Mo-K _α (0.71073)
Crystal system	monoclinic	monoclinic	triclinic	monoclinic	monoclinic	monoclinic
Space group	P2 ₁	P2 ₁ /c	P $\bar{1}$	P2 ₁ /c	P2 ₁ /c	P2 ₁ /n
Cell dimensions						
<i>a</i> [pm]	768.20(10)	715.60(10)	796.8(2)	956.45(19)	623.6(3)	1364.4(3)
<i>b</i> [pm]	701.10(10)	963.60(10)	901.4(10)	2842.9(6)	748.0(3)	1127.2(2)
<i>c</i> [pm]	863.80(10)	1408.40(10)	1586.3(3)	942.00(19)	2543.6(15)	1571.6(3)
<i>α</i> [°]	90	90	85.47(10)	90	90	90
<i>β</i> [°]	96.470(10)	103.870(10)	80.62(2)	111.74(3)	90.83(3)	114.37(3)
<i>γ</i> [°]	90	90	63.86(10)	90	90	90
Volume [nm ³]	0.46227(10)	0.94285(18)	1.0091(3)	2.3791(8)	1.1862(10)	2.2016(8)
<i>Z</i>	2	2	2	4	2	4
<i>d</i> (calcd.) [Mg/m ³]	1.481	1.724	1.730	1.801	2.054	2.012
<i>μ</i> [mm ⁻¹]	0.494	1.450	1.375	1.510	1.260	2.280
Crystal size [mm]	0.60 × 0.50 × 0.20	0.60 × 0.20 × 0.10	0.90 × 0.20 × 0.02	0.40 × 0.20 × 0.20	0.80 × 0.60 × 0.50	0.40 × 0.20 × 0.10
<i>θ</i> range [°]	2.67 to 27.49	2.59 to 27.50	2.52 to 24.99	2.29 to 26.01	2.84 to 27.50	2.44 to 26.05
Range in <i>h k l</i>	−1 ≤ <i>h</i> ≤ 9 −8 ≤ <i>k</i> ≤ 8 −11 ≤ <i>l</i> ≤ 11	−9 ≤ <i>h</i> ≤ 9 −12 ≤ <i>k</i> ≤ 12 −18 ≤ <i>l</i> ≤ 18	−9 ≤ <i>h</i> ≤ 1 −10 ≤ <i>k</i> ≤ 10 −18 ≤ <i>l</i> ≤ 18	−11 ≤ <i>h</i> ≤ 11 −34 ≤ <i>k</i> ≤ 34 −11 ≤ <i>l</i> ≤ 11	−1 ≤ <i>h</i> ≤ 8 −1 ≤ <i>k</i> ≤ 9 −33 ≤ <i>l</i> ≤ 32	−16 ≤ <i>h</i> ≤ 16 −13 ≤ <i>k</i> ≤ 13 −19 ≤ <i>l</i> ≤ 19
Refl. collected	2654	8562	4454	25010	3975	14946
Independent refl.	1388, <i>R</i> _{int} = 0.0222	2176, <i>R</i> _{int} = 0.0292	3551, <i>R</i> _{int} = 0.0335	4360, <i>R</i> _{int} = 0.0496	2705, <i>R</i> _{int} = 0.0403	4280, <i>R</i> _{int} = 0.0342
Refl. [<i>I</i> > 2σ(<i>I</i>)]	1359					
Restr. / parameters	1 / 111					
<i>R</i> ₁ ^[a] [<i>I</i> > 2σ(<i>I</i>)]	0.0237	0.0177	0.0542	0.0274	0.0515	0.0235
<i>wR</i> ₂ ^[b] [<i>I</i> > 2σ(<i>I</i>)]	0.0645	0.0435	0.1274	0.0758	0.1311	0.0499
<i>R</i> ₁ ^[a] (all data)	0.0245	0.0198	0.0873	0.0346	0.0585	0.0375
<i>wR</i> ₂ ^[b] (all data)	0.0651	0.0444	0.1274	0.0786	0.1396	0.0556
GooF ^[c] (<i>F</i> _o ²)	1.078	1.076	0.983	1.080	1.156	0.992
Absolute structure parameter	−0.10(9)					
Largest diff. peak [e Å ⁻³]	0.271	0.376	0.812	0.467	1.021	0.450
Largest diff. hole [e Å ⁻³]	−0.219	−0.434	−1.462	−0.484	−1.358	−0.413

[a] $R_1 = \Sigma ||F_{\text{obsd.}}| - |F_{\text{calcd.}}|| / \Sigma |F_{\text{obsd.}}|$. [b] $wR_2 = \{\Sigma [w(F_{\text{obsd.}}^2 - F_{\text{calcd.}}^2)^2] / \Sigma [w(F_{\text{obsd.}}^2)^2]\}^{1/2}$. [c] GooF = $\{\Sigma [w(F_{\text{obsd.}}^2 - F_{\text{calcd.}}^2) / (n - p)]\}^{1/2}$.

[1] L. I. Goryunov, J. Grobe, D. Le Van, V. D. Shteingarts, R. Mews, E. Lork, E.-U. Würthwein, *Eur. J. Org. Chem.* **2010**, 1111–1123.

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