Effect of *Meta*-Substitution on Solid State Geometry of *N*-(Aryl)-2,2,2-trichloro-acetamides, 3-XC_6H_4NH-CO-CCl_3 and 3,5-$X_2C_6H_3NH$-CO-CCl_3 (X = Cl, CH_3)

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The crystal structures of *N*-(*meta*-substituted phenyl)-2,2,2-trichloro-acetamides such as *N*-(3-methylphenyl)-2,2,2-trichloro-acetamide, 3-$CH_3C_6H_4NH$-CO-CCl_3 (**3MPTCA**); *N*-(3-chlorophenyl)-2,2,2-trichloro-acetamide, 3-ClC_6H_4NH-CO-CCl_3 (**3CPTCA**); *N*-(3,5-dimethylphenyl)-2,2,2-trichloro-acetamide, 3,5-$(CH_3)_2C_6H_3NH$-CO-CCl_3 (**35DMPTCA**) and *N*-(3,5-dichlorophenyl)-2,2,2-trichloro-acetamide, 3,5-$Cl_2C_6H_3NH$-CO-CCl_3 (**35DCPTCA**) have been determined at room temperature. The crystal system, space group, formula units and lattice constants (Å) of the new structures are: **3MPTCA**: orthorhombic, *Pbca*, $Z = 8$, $a = 12.3199(11)$, $b = 8.9719(8)$, $c = 20.2058(15)$; **3CPTCA**: orthorhombic, *Fdd*2, $Z = 16$, $a = 19.285(4)$, $b = 40.765(8)$, $c = 5.5920(11)$; **35DMPTCA**: triclinic, $P\bar{1}$, $Z = 2$, $a = 8.994(4)$, $b = 9.9890(10)$, $c = 14.760(5)$, $\alpha = 79.56(2)^\circ$, $\beta = 73.32(3)^\circ$, $\gamma = 86.47(2)^\circ$; and **35DCPTCA**: orthorhombic, *Pbca*, $Z = 8$, $a = 22.485(5)$, $b = 10.738(2)$, $c = 10.028(3)$. The compound **35DMPTCA** has two molecules in its asymmetric unit, similar to *o*-NO_2-, *m*-NO_2- and *p*-CH_3-substituted phenyl-trichloro-acetamides, while **3MPTCA**, **3CPTCA** and **35DCPTCA** have one molecule each in their asymmetric units. The analysis of data indicates that the substitution of a strong electron withdrawing group such as a nitro group into **PTCA** at *ortho* or *meta* positions has a significant effect on the crystal parameters.

Key words: Meta-Substitution; Crystal Geometry; *N*-(Aryl)-trichloro-acetamides.