$Gd_3Ru_2C_5$	*hP*50	(176) $P6_3/m$ – h^7fe

$Gd_3Ru_2C_5$ [1]
Structural features: Ru_3C_{10} units (a Ru_3 triangle with a C=C pair bonded to each Ru and single C capping all edges and one side of the triangle in statistical disorder; all atoms coplanar except the latter C); additional Ru in channels parallel to [001] (partial disorder).

Pohlkamp M.W. et al. (2001) [1]
$C_{4.86}Gd_3Ru_{1.85}$
a = 1.147, c = 0.5047 nm, c/a = 0.440, V = 0.5750 nm^3, Z = 4

site	Wyck.	sym.	x	y	z	occ.	atomic environment
C1	6*h*	*m*..	0.0686	0.3218	$^1/_4$		single atom C
C2	6*h*	*m*..	0.1199	0.6116	$^1/_4$		non-colinear Ru_2
Ru3	6*h*	*m*..	0.2056	0.5028	$^1/_4$		trigonal bipyramid C_5
C4	6*h*	*m*..	0.2074	0.0188	$^1/_4$		single atom C
Gd5	6*h*	*m*..	0.2182	0.22	$^1/_4$	0.247	
Gd6	6*h*	*m*..	0.2597	0.2599	$^1/_4$	0.753	
Gd7	6*h*	*m*..	0.507	0.1233	$^1/_4$		pentagonal pyramid C_6
C8	4*f*	3..	$^1/_3$	$^2/_3$	0.0014	0.36	non-coplanar triangle Ru_3
Ru9	4*e*	3..	0	0	0.0654	0.351	

Experimental: single crystal, diffractometer, X-rays, R = 0.052

Remarks: Refinement of the site occupancies showed no significant deviation from unity except for sites Gd5, Gd6, C8 and Ru9. Short interatomic distances for partly occupied site(s).

References: [1] Pohlkamp M.W., Hoffmann R.D., Kotzyba G., Jeitschko W. (2001), J. Solid State Chem. 160, 77-87.