$Gd_{0.67}Ni_2Ga_4(Ga_{0.67}Ge_{0.33})_2$	*hP*11	(187) *P*-6*m*2 – jihgda

$Gd_{0.67}Ni_2Ga_{6-x}Ge_x$ [1]
Structural features: $Gd_2(Ga_3)$ layers (the Gd atoms and the centers of Ga_3 triangles form a triangle mesh) and slabs containing triangle-mesh Ni, Ga and (Ga,Ge) layers alternate along [001]; $Gd_2(Ga_3)$ layers in maximum stacking disorder.

Zhuravleva M.A. et al. (2002) [1]
$Ga_{5.32}Gd_{0.58}Ge_{0.67}Ni_2$
a = 0.41856, c = 0.9167 nm, c/a = 2.190, V = 0.1391 nm^3, Z = 1

site	Wyck.	sym.	x	y	z	occ.	atomic environment
Ga1	3*j*	*mm*2	0.2012	0.7988	0	0.33	
M2	2*i*	3*m*.	$^2/_3$	$^1/_3$	0.2003		non-coplanar triangle Ni_3
Ni3	2*h*	3*m*.	$^1/_3$	$^2/_3$	0.2455		
Ga4	2*g*	3*m*.	0	0	0.349		10-vertex polyhedron Ni_3Ga_7
Ga5	1*d*	-6*m*2	$^1/_3$	$^2/_3$	$^1/_2$		8-vertex polyhedron Ni_2Ga_6
Gd6	1*a*	-6*m*2	0	0	0	0.58	

M2 = 0.667Ga + 0.333Ge
Experimental: single crystal, diffractometer, X-rays, R = 0.027, T = 293 K

Remarks: Ga and Ge could not be distinguished, the refinement was performed with site Ga1 occupied by Ge and site M2 fully occupied by Ga. We assigned a Ga/Ge distribution in agreement with the refinement of $Y_{0.6}Co_2Ga_{6-x}Ge_x$ on neutron diffraction data reported in the same paper. Short interatomic distances for partly occupied site(s). A similar model was proposed for disordered RNi_3Al_9 in [2].

References: [1] Zhuravleva M.A., Chen X.Z., Wang X., Schultz A.J., Ireland J., Kannewurf C.K., Kanatzidis M.G. (2002), Chem. Mater. 14, 3066-3081. [2] Gladyshevskii R.E., Cenzual K., Flack H.D., Parthé E. (1993), Acta Crystallogr. B 49, 468-474.