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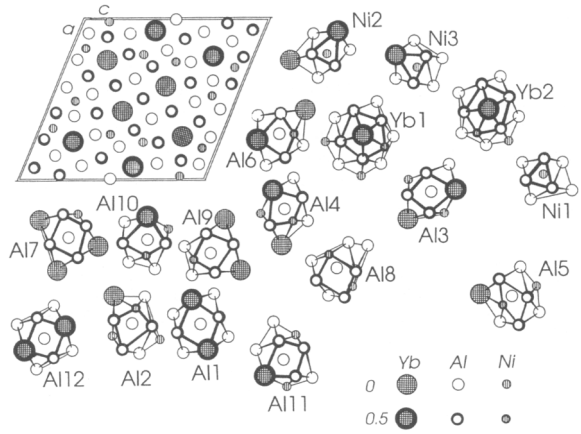

Source of material: Synthesis from elements by arc melting. Nominal composition $Yb_{10}Ni_{15}Al_{75}$.
$Yb_4Ni_6Al_{23}$ crystallizes with $Y_4Ni_6Al_{23}$ structure type (see ref. 1).

$Al_{23}Ni_6Yb_4$, monoclinic, $C2/m$ (No. 12), a =15.834(7) Å, b =4.069(1) Å, c =18.18(1) Å, β =112.84(4)°, V =1080 Å^3, Z =2, $R(F)$ =0.046, $R_w(F)$ =0.034.

Table 1. Parameters used for the X-ray data collection

Crystal:	metallic needle, size 0.016 x 0.016 x 0.128 mm
Wavelength:	Mo $K\alpha$ radiation (0.71073 Å)
μ:	232.5 cm^{-1}
Diffractometer:	Philips PW1100
Scan mode:	ω-2θ
$T_{measurement}$:	293 K
$2\theta_{max}$:	50°
N(hkl)$_{unique}$:	1086
Criterion for F_o:	$F_o > 3\,\sigma\,(F_o)$
N($param$)$_{refined}$:	102
Program:	XTAL 3.2

Table 2. Final atomic coordinates and displacement parameters (in Å^2)

Atom	Site	x	y	z	U_{11}	U_{22}	U_{33}	U_{12}	U_{13}	U_{23}
Yb(1)	4i	0.26372(9)	0	0.21808(8)	0.0078(7)	0.0048(8)	0.0064(8)	0	0.0016(6)	0
Yb(2)	4i	0.57506(9)	0	0.40731(8)	0.0078(7)	0.0053(8)	0.0066(8)	0	0.0010(6)	0
Ni(1)	4i	0.0074(3)	0	0.1369(3)	0.010(2)	0.009(3)	0.010(3)	0	0.005(2)	0
Ni(2)	4i	0.2282(3)	0	0.3986(3)	0.008(2)	0.007(3)	0.008(2)	0	0.003(2)	0
Ni(3)	4i	0.6893(3)	0	0.0674(3)	0.005(2)	0.004(2)	0.006(2)	0	–0.002(2)	0
Al(1)	4i	0.0811(7)	0	0.6861(6)	0.005(4)	0.009(5)	0.004(4)	0	–0.002(4)	0
Al(2)	4i	0.0900(6)	0	0.0510(6)	0.006(5)	0.009(6)	0.011(5)	0	0.000(4)	0
Al(3)	4i	0.0919(6)	0	0.2812(6)	0.007(5)	0.010(6)	0.008(5)	0	–0.006(4)	0
Al(4)	4i	0.1998(6)	0	0.5195(6)	0.011(5)	0.001(5)	0.011(5)	0	0.007(4)	0
Al(5)	4i	0.2556(6)	0	0.0468(5)	0.011(5)	0.011(6)	–0.001(5)	0	0.000(4)	0
Al(6)	4i	0.2726(7)	0	0.6763(6)	0.013(5)	0.001(5)	0.011(5)	0	0.004(4)	0
Al(7)	4i	0.3793(6)	0	0.4052(6)	0.006(5)	0.017(6)	0.007(5)	0	–0.001(4)	0
Al(8)	4i	0.4326(6)	0	0.0596(6)	0.011(5)	0.022(7)	–0.001(5)	0	–0.006(4)	0
Al(9)	4i	0.4676(7)	0	0.2203(6)	0.017(5)	0.008(6)	0.008(5)	0	0.006(5)	0
Al(10)	4i	0.6115(6)	0	0.1640(6)	0.008(5)	0.007(5)	0.012(5)	0	0.004(4)	0
Al(11)	4i	0.8554(7)	0	0.1438(6)	0.010(5)	0.005(6)	0.008(5)	0	0.000(4)	0
Al(12)	2c	0	0	1/2	0.007(7)	0.022(9)	0.016(8)	0	0.007(6)	0

Reference

1. Gladyshevskii, R. E; Parthé, E.: Structure of Monoclinic $Y_4Ni_6Al_{23}$. Acta Crystallogr. C**48** (1992) 232-236.