Supplementary Information

Nazarovite, $Ni_{12}P_5$, a new terrestrial and meteoritic mineral structurally related to nickelphosphide, Ni_3P

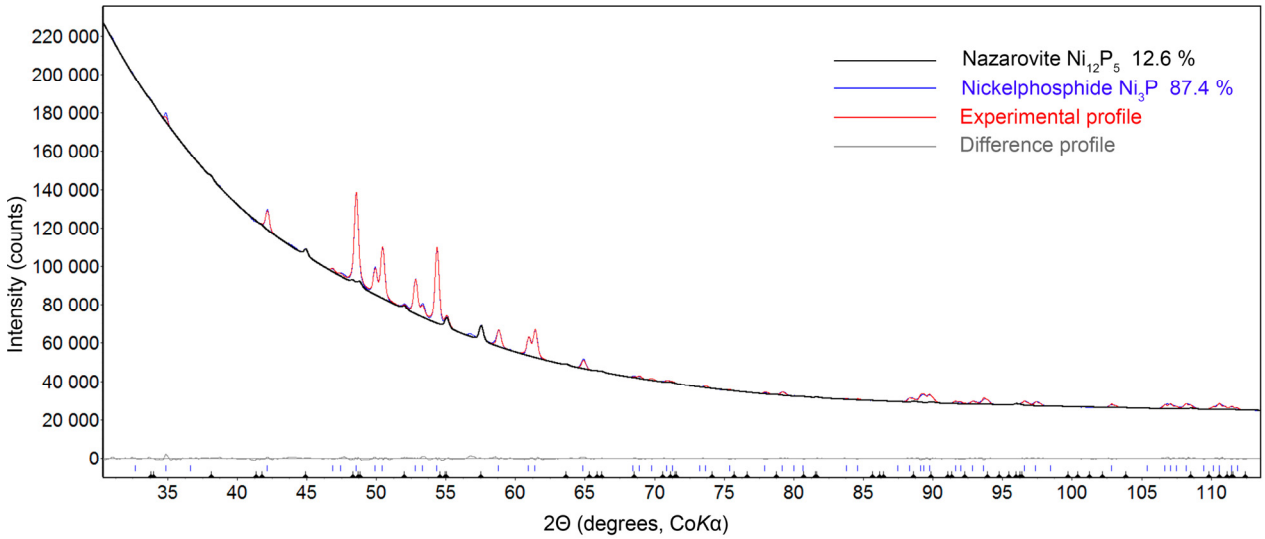

Figure S1. Rietveld refinement plot of acid-resistant precipitate from the Marjalahti pallasite.

Table S1. Rietveld refinement details for nazarovite from the Marjalahti pallasite

Radiation	Co$K\alpha_1$ / Co$K\alpha_2$
μ (mm^{-1})	60.76
Exposure time (s)	3600
$2\Theta_{min}$ –$2\Theta_{max}$ (°)	30–115
R_p, R_{wp}, R_B (%), GoF	0.32, 0.45, 0.216, 1.07

Table S2. Fractional atomic coordinates and isotropic displacement parameters for nazarovite from the Marjalahti pallasite

Site	*x*	*y*	*z*	B_{iso} ($Å^2$)
Ni1	0.1152(6)	0.1830(6)	0.251(2)	0.47(10)
Ni2	0.3644(9)	0.0610(11)	0	0.47(10)
P1	0.1854(19)	0.4295(17)	0	0.47(10)
P2	0	0	0	0.47(10)

Table S3. Crystal parameters, data collection and single-crystal structure refinement details for nazarovite from the Hatrurim basin (the holotype specimen)

Crystal data	
Chemical formula	$Ni_{12}P_5$
Crystal system, space group	Tetragonal, *I*4/*m*
a (Å)	8.640(1)
c (Å)	5.071(3)
V (Å^3)	378.5(2)
Z	2
D_x (g cm^{-1})	7.539
Crystal size (mm)	0.01 × 0.005 × 0.002

Data collection and refinement	
Diffractometer	Bruker Kappa Apex DUO CCD
Radiation	Mo*K*α
Temperature (K)	296
μ (mm^{-1})	30.06
F(000)	822
No. of measured, independent and observed [$I > 2\sigma(I)$] reflections	988, 278, 214
R_{int}, R_σ	0.046, 0.029
h, *k*, *l* min→max	–7→11, –11→11, –6→6
$2\Theta_{max}$ (°)	52
No. of parameters	24
R_1, wR_2, *S*	0.052, 0.124, 1.149
Data completeness	0.996
$\Delta\rho_{min}$, $\Delta\rho_{max}$ (e Å^{-3})	–1.44, 1.40