| $H_{0.9}K_{1.0}(Mg_{0.95}Cr_{0.02}Al_{0.03})_2[Si_2O_7]$ | *hP*34 | (185) $P6_3cm$ – $dc^2ba^3$ |
|---|---|---|

**$K_{1.3}(Mg_{0.95}Al_{0.03}Cr_{0.02})_2Si_2O_{6.4}(OH)_{0.6}$** [2], X phase
Structural features: Close-packed $K_2O$ and $O_3$ layers in $hc_2$ stacking (partial vacancies ignored); (Mg,Al,Cr) in octahedral, Si in tetrahedral voids. Infinite slabs of edge-linked $(Mg,Al,Cr)O_6$ octahedra containing 6-rings share vertices with units of two vertex-linked $SiO_4$ tetrahedra to form a 3D-framework; K in trigonal prismatic voids (split site).

Mancini F. et al. (2002) [1]
$Al_{0.06}Cr_{0.04}K_{1.32}Mg_{1.90}O_7Si_2$
$a$ = 0.5028, $c$ = 1.3216 nm, $c/a$ = 2.628, $V$ = 0.2893 nm$^3$, $Z$ = 2

| site | Wyck. | sym. | $x$ | $y$ | $z$ | occ. | atomic environment |
|---|---|---|---|---|---|---|---|
| K1 | 12*d* | 1 | 0.2921 | 0.6468 | 0.0015 | 0.22 | |
| O2 | 6*c* | ..*m* | 0.3124 | 0 | 0.1606 | | non-coplanar triangle $SiMg_2$ |
| O3 | 6*c* | ..*m* | 0.6894 | 0 | 0.3397 | | non-coplanar triangle $SiMg_2$ |
| M4 | 4*b* | 3.. | $^1/_3$ | $^2/_3$ | 0.2513 | | octahedron $O_6$ |
| O5 | 2*a* | 3.*m* | 0 | 0 | 0.0 | | colinear $Si_2$ |
| Si6 | 2*a* | 3.*m* | 0 | 0 | 0.1288 | | tetrahedron $O_4$ |
| Si7 | 2*a* | 3.*m* | 0 | 0 | 0.3763 | | tetrahedron $O_4$ |

M4 = 0.95Mg + 0.03Al + 0.02Cr
Transformation from published data: -*x*,-*y*,-*z*; origin shift 0 0 0.111
Experimental: single crystal, diffractometer, X-rays, R = 0.018, T = 293 K

Remarks: High-pressure phase. H not located. Short interatomic distances for partly occupied site(s). Hydrogen atoms are not taken into consideration for Pearson symbol, Wyckoff sequence and atomic environments. In table 2 of [1] the interaxial angles β and γ are interchanged.

References: [1] Mancini F., Harlow G.E., Cahill C. (2002), Am. Mineral. 87, 302-306. [2] Mancini F., Harlow G., Cahill C.L. (2001), Z. Kristallogr., New Cryst. Struct. 216, 189-190.