$Er_{4.8}Si_{2.7}C_{0.5}$	*hP*54	(187) *P*-6*m*2 – ok^6j^6ihg

$Er_5Si_3C_{0.5}$ [1]
Structural features: $SiEr_8Er$ monocapped square antiprisms ($SiEr_6Er_3$ tricapped trigonal prisms; partial vacancies ignored) share atoms to form a 3D-framework; C in octahedral voids. Infinite columns of face-sharing CEr_6 octahedra and infinite linear -Er- chains. Filled-up derivative of Mn_5Si_3 with C in octahedral voids.

Al Shahery G.M.Y. et al. (1982) [1]
$C_{0.54}Er_{4.76}Si_{2.66}$
a = 1.441, c = 0.6322 nm, c/a = 0.439, V = 1.1369 nm^3, Z = 6

site	Wyck.	sym.	*x*	*y*	*z*	occ.	atomic environment
Er1	12*o*	1	0.00107	0.33373	0.2475		14-vertex Frank-Kasper Si_6Er_8
Si2	3*k*	*mm*2	0.08017	0.91983	$^1/_2$	0.92	
Er3	3*k*	*mm*2	0.25577	0.74423	$^1/_2$		non-colinear C_2
Si4	3*k*	*mm*2	0.45907	0.54093	$^1/_2$		pseudo Frank-Kasper $Er_9C_2Si_2$
Er5	3*k*	*mm*2	0.58267	0.41733	$^1/_2$		7-capped pentagonal prism $C_2Si_5Er_{10}$
Si6	3*k*	*mm*2	0.81177	0.18823	$^1/_2$		pseudo Frank-Kasper Er_9Si_2
Er7	3*k*	*mm*2	0.91977	0.08023	$^1/_2$	0.8	
Er8	3*j*	*mm*2	0.07247	0.92753	0		non-colinear C_2
Si9	3*j*	*mm*2	0.23797	0.76203	0	0.4	non-colinear Er_2
Er10	3*j*	*mm*2	0.41147	0.58853	0	0.72	non-colinear Si_2
Si11	3*j*	*mm*2	0.53607	0.46393	0		pseudo Frank-Kasper $Er_9C_2Si_2$
Er12	3*j*	*mm*2	0.74477	0.25523	0		non-colinear C_2
Si13	3*j*	*mm*2	0.87197	0.12803	0		pseudo Frank-Kasper $Er_9C_2Si_2$
C14	2*i*	3*m*.	$^2/_3$	$^1/_3$	0.21	0.66	7-vertex polyhedron Er_6C
C15	2*h*	3*m*.	$^1/_3$	$^2/_3$	0.29	0.48	7-vertex polyhedron Er_6C
C16	2*g*	3*m*.	0	0	0.16	0.48	4-vertex polyhedron CEr_3

Transformation from published data: origin shift $^1/_3$ $^2/_3$ $^1/_2$
Experimental: single crystal, diffractometer, X-rays, R = 0.110

Remarks: Short interatomic distances: d(Er7-Si2) = 0.200 nm, d(Er10-Si9) = 0.220 nm. We assume that in table 2 of [1] the occupancy of former $Er(3k)_1$ is misprinted as 0.35 instead of 0.25 (maximum value for Wyckoff position 3*k*).

References: [1] Al Shahery G.M.Y., Jones D.W., McColm I.J., Steadman R. (1982), J. Less-Common Met. 87, 99-108.