Table containing all the fitting parameters obtained for the simultaneous multi-K fit performed on bulk and cu-apoferritin nanoparticles between 20 K and 220 K.

	1st shell		2nd shell		3rd shell		Disorder parameters from 1st shell		Global fit parameters		
	***R* [Å]**	***CN***	***R* [Å]**	***CN***	***R* [Å]**	***CN***	Θ_D [K][1]	σ^2_{st}[Å^{-2}]	ΔE_0	R_{eff}	S^2_0
NP	2.54±0.01	9.6±0.4	3.60±0.02	4.6±0.5	4.41±0.02	20±2	353±15	25±4 x10^{-4}	-2.2±0.5	0.043	0.93
Foil	2.55±0.01	12.0±0.5	3.61±0.01	6.0±0.5	4.42±0.01	24±1	341±8	3±2 x10^{-4}	-2.0±0.3	0.02	0.93

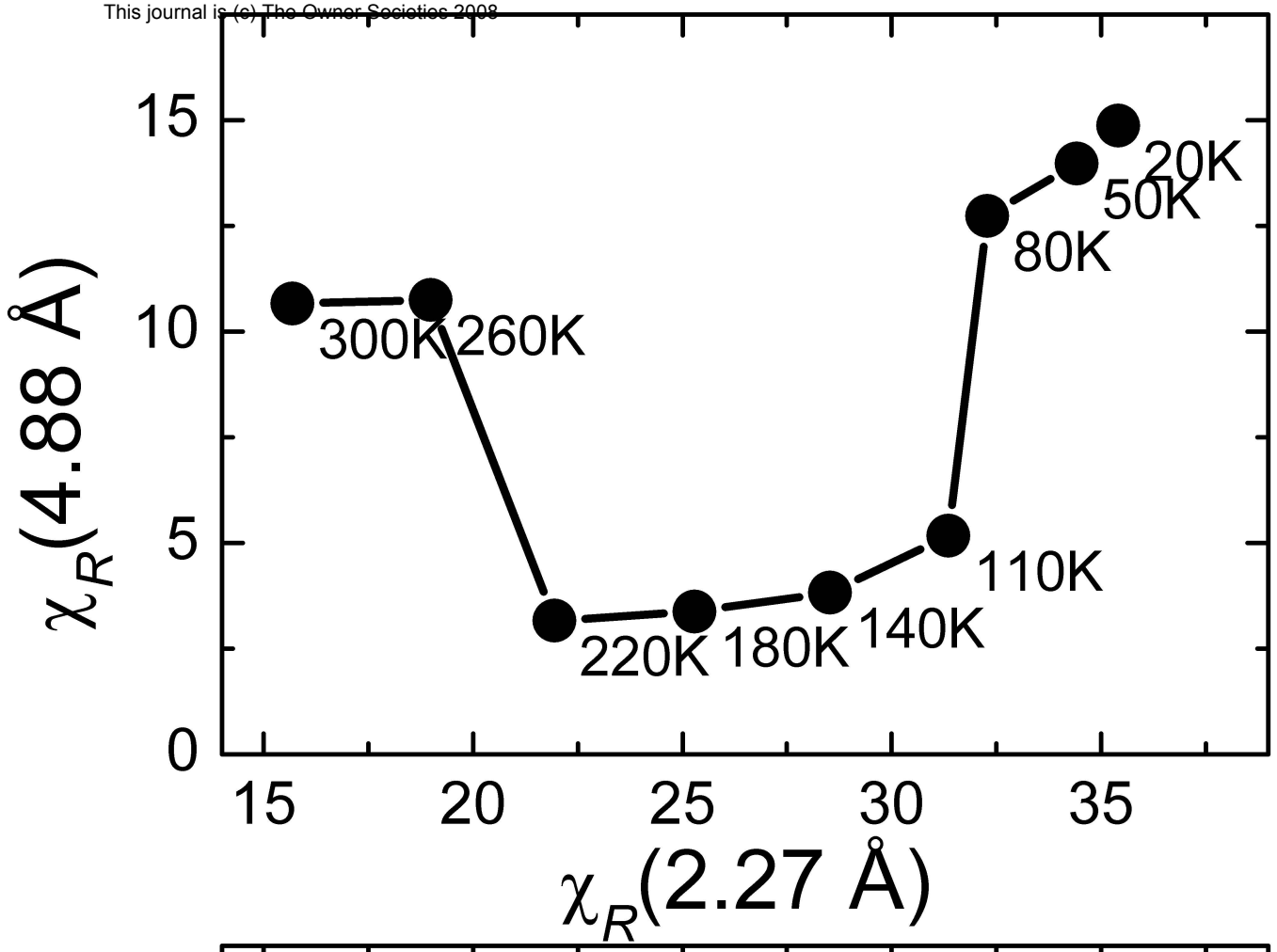
Debye Waller Factors obtained for each temperature (20 K -220 K) for the first 3 coordination shells (first 3 single-scattering paths) in cu-apoferritin

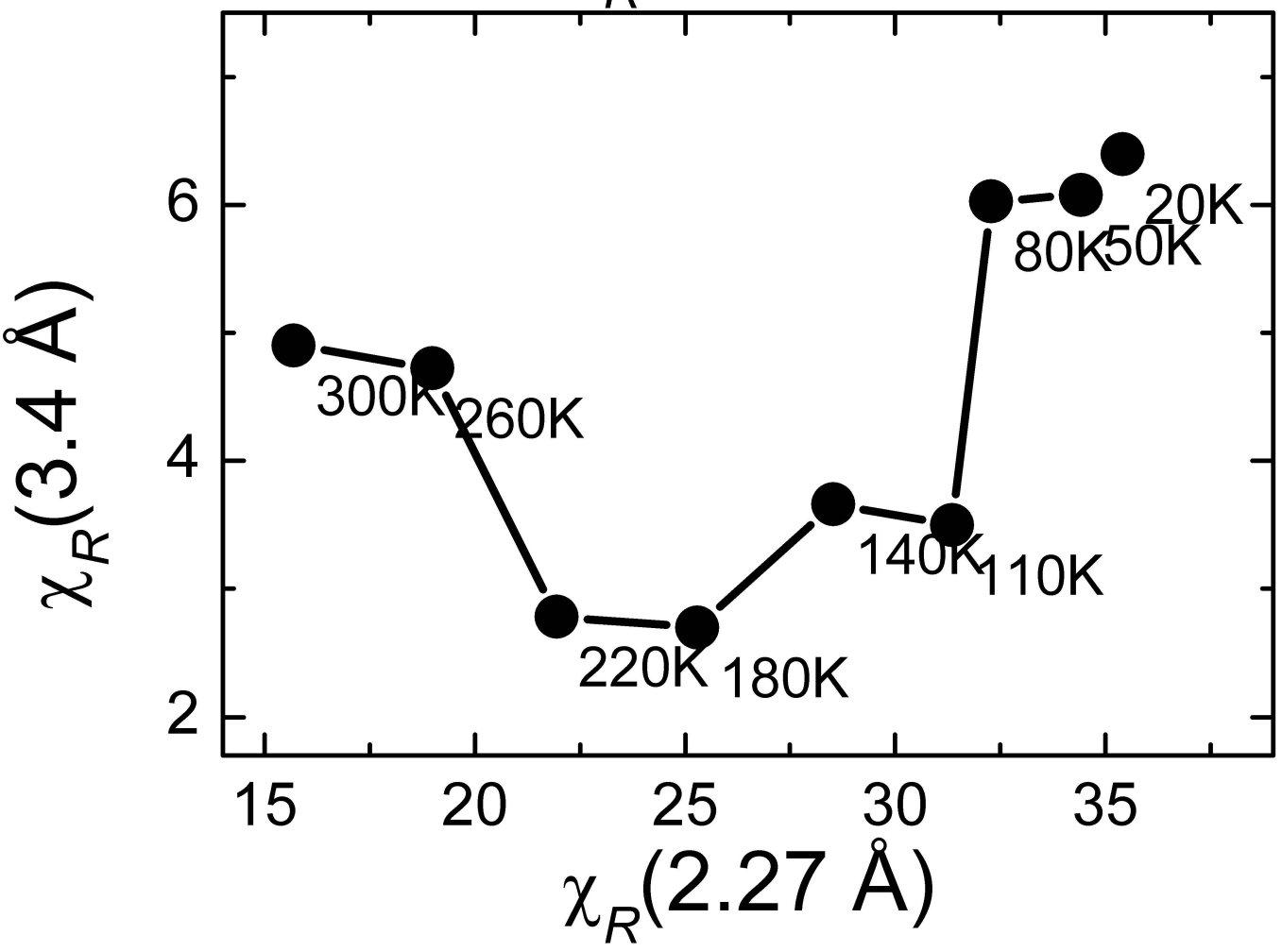
T [K]	1st shell	2nd shell	3rd shell
20	0,00531 ± 0,002	0,006 ± 0,003	0,007 ± 0,001
50	0,00539 ± 0,002	0,006 ± 0,003	0,007 ± 0,001
80	0,00564 ± 0,002	0,006 ± 0,003	0,007 ± 0,001

110	0,00604 ± 0,002	0,010 ± 0,003	0,010 ± 0,001
140	0,00654 ± 0,002	0,011 ± 0,003	0,011 ± 0,001
180	0,00729 ± 0,001	0,012 ± 0,002	0,012 ± 0,003
220	0,00809 ± 0,002	0,012 ± 0,003	0,014 ± 0,002

First coordination distances for copper atoms in cu-apoferritin and bulk copper.

T [K]	Cu-apoferritin	Bulk copper
20	2,538 ± 0,003	2,529 ± 0,003
50	2,543 ± 0,003	2,530 ± 0,003
80	2,541 ± 0,003	2,530 ± 0,003
110	2,538 ± 0,003	2,530 ± 0,002
140	2,543 ± 0,003	2,531 ± 0,002
180	2,544 ± 0,003	2,532 ± 0,002
220	2,549 ± 0,003	2,534 ± 0,002


15
10
5
0
15
20
25
30
35
χ_R(4.88 Å)
χ_R(2.27 Å)
300K
260K
220K
180K
140K
110K
80K
50K
20K


6
4
2
15
20
25
30
35
χ_R(3.4 Å)
χ_R(2.27 Å)
300K
260K
220K
180K
140K
110K
80K
50K
20K