Correction to: Spin-label Order Parameter Calibrations for Slow Motion

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In the print published article, some equations were published incorrectly, the correct equations are given below.

Equation 7 of the above manuscript contains an error of sign and should read:

$$S_{zz} = \frac{(A_{\max} - A_{\min}) - (d_{\max}^o + d_{\min}^o)}{\Delta A - (d'_{\max} + d'_{\min})}. \quad (7)$$

Because of this, calibration parameters for deducing order parameters S_{zz} (and isotropic hyperfine couplings a_o) from the measurables $A_{\max}$ and $A_{\min}$, which appear in Tables 1 and 2 are incorrect. The correct calibration parameters are listed in the new Tables 1 and 2 given here. The calibration equations to which these tables refer are:

$$S_{zz} = s_1 \times (A_{\max} - A_{\min}) - s_o \quad (8)$$

and

$$a_o = \frac{1}{3} (f_{\max} A_{\max} + f_{\min} A_{\min}) + \delta a_o, \quad (13)$$

respectively.

With the exception of equations that incorporate numerical constants, the paper otherwise remains unchanged. Corrected versions of the latter are:

$$s_1 = 40.4 - 5.21 \times \log_{10} D_{RL} (\text{s}^{-1}) \quad (9)$$

The original article can be found online at <https://doi.org/10.1007/s00723-017-0940-7>.

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Table 1 Calibration parameters in Eqs. 8 and 13 for order parameter and isotropic hyperfine coupling, for different diffusion coefficients $D_{R\perp} (= 0.1 \times D_{R//})$

$D_{R\perp} (s^{-1})$	$s_1 (mT^{-1})$	s_o	$f_{\max}$	$f_{\min}$	$\delta a_o (mT)$
1.5×10^7	2.25805	4.55239	1.08401	1.91599	-0.17575
2.0×10^7	2.35755	4.62642	1.10419	1.89581	-0.21582
2.4×10^7	1.9727	3.67669	1.07009	1.92991	-0.13875
2.65×10^7	1.69563	3.02791	1.051	1.949	-0.09576
3.0×10^7	1.33364	2.20281	1.01063	1.98937	-0.00925
4.0×10^7	0.82337	1.04946	0.97798	2.02202	0.0629
5.0×10^7	0.6322	0.6186	0.97215	2.02785	0.07795
6.0×10^7	0.55514	0.43971	0.97219	2.02781	0.0793
7.0×10^7	0.48987	0.29547	0.96391	2.03609	0.09822
8.0×10^7	0.47378	0.25449	0.97708	2.02292	0.07194
1.0×10^8	0.43282	0.16264	0.97892	2.02108	0.06986
1.2×10^8	0.41242	0.11679	0.98246	2.01754	0.06369
1.5×10^8	0.39803	0.08341	0.98445	2.01555	0.05915
	(0.3824)	0.04808	0.97197	2.02803	(0.08735) ^a
2.0×10^8	0.38495	0.05415	0.98742	2.01258	0.05318
	(0.37738)	0.0371	0.9811	2.0189	(0.06739) ^a

$$\text{Empirical logistic fits: } s_1 (mT^{-1}) = \frac{1.980}{1 + (D_R / 2.979 \times 10^7)^{5.23}} + 0.444$$

$$s_o = \frac{4.750}{1 + (D_R / 2.908 \times 10^7)^{5.028}} + 0.185$$

$$f_{\max} = 0.977 + \frac{0.116}{1 + (D_R / 2.77 \times 10^7)^{11.67}}$$

$$f_{\min} = 2.023 - \frac{0.116}{1 + (D_R / 2.77 \times 10^7)^{11.67}}$$

$$\delta a_o = 0.071 - \frac{0.267}{1 + (D_R / 2.77 \times 10^7)^{10.84}}$$

$$^a \text{Fits with } d_{\max}^o = 0, d'_{\max} = 0$$

Table 2 Calibration parameters in Eqs. 8 and 13 for order parameter and isotropic hyperfine coupling, for different diffusion coefficients $D_R \equiv D_{R\perp} (= D_{R//})$

$D_R (s^{-1})$	$s_1 (mT^{-1})$	s_o	$f_{\max}$	$f_{\min}$	$\delta a_o (mT)$
1.5×10^7	2.01438	3.99366	1.14364	1.85636	-0.31248
2.0×10^7	2.24173	4.36568	1.12865	1.87135	-0.2714
2.4×10^7	1.89154	3.49836	1.09147	1.90853	-0.18617
2.65×10^7	1.6547	2.93689	1.06587	1.93413	-0.12903
3.0×10^7	1.33214	2.19694	1.02646	1.97354	-0.04372
4.0×10^7	0.80587	1.01428	0.99621	2.00379	0.02409
5.0×10^7	0.66375	0.68161	0.99214	2.00786	0.03678
6.0×10^7	0.56446	0.45829	0.98075	2.01925	0.06204
7.0×10^7	0.48962	0.29509	0.96673	2.03327	0.0917
8.0×10^7	0.45	0.20786	0.96319	2.03681	0.09983
1.0×10^8	0.43535	0.16771	0.98012	2.01988	0.06687
1.2×10^8	0.41288	0.11771	0.98171	2.01829	0.06421
1.5×10^8	0.39729	0.08246	0.98571	2.01429	0.05752
	(0.38172)	0.04724	0.9732	2.0268	(0.08581) ^a
2.0×10^8	0.38495	0.05415	0.98742	2.01258	0.05318
	(0.37738)	0.0371	0.9811	2.0189	(0.06739) ^a

$$^a \text{Fits with } d_{\max}^o = 0, d'_{\max} = 0$$

$$s_o = 92.9 - 12.10 \times \log_{10} D_{R\perp} (s^{-1}) \quad (10)$$

over the range $D_{R\perp} = (2.0 - 4.0) \times 10^7 \text{ s}^{-1}$.

$$S_{zz} = 0.380 \times (A_{\max} - A_{\min}) - 0.043 \quad (11)$$

$$f_{\max} = 4.27 - 0.433 \times \log_{10} D_{R\perp} (s^{-1}) \quad (14)$$

$$f_{\min} = -1.27 + 0.433 \times \log_{10} D_{R\perp} (s^{-1}) \quad (15)$$

$$\delta a_o (\text{mT}) = -7.18 + 0.955 \times \log_{10} D_{R\perp} (s^{-1}), \quad (16)$$

over the range $D_{R\perp} = (2.0 - 4.0) \times 10^7 \text{ s}^{-1}$.

$$a_o (\text{mT}) = \frac{1}{3} (0.976 A_{\max} + 2.023 A_{\min}) + 0.077. \quad (17)$$

I am most grateful to Prof. Ana Gennaro for alerting me to this problem; and I apologise to workers in the field for the inconvenience caused.

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