## **RSC Advances**



### CORRECTION



Cite this: RSC Adv., 2020, 10, 19463

# Correction: Modelling and prediction of the thermophysical properties of aqueous mixtures of choline geranate and geranic acid (CAGE) using SAFT-γ Mie

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DOI: 10.1039/d0ra90058c

rsc.li/rsc-advances

Correction for 'Modelling and prediction of the thermophysical properties of aqueous mixtures of choline geranate and geranic acid (CAGE) using SAFT-γ Mie' by Silvia Di Lecce et al., RSC Adv., 2019, 9, 38017-38031. DOI: 10.1039/C9RA07057E

The authors regret the omission of one of the authors, David Pugh, from the original manuscript. The corrected list of authors and affiliations for this paper is as shown here.

In addition, we point readers to ref. 1 and 2, together with ref. 17-21 in the original paper, for a complete description of the association contribution to the SAFT- $\gamma$  Mie equation of state.

The authors also wish to correct a number of typographical errors in Tables 3 and 4. The corrected Tables 3 and 4 are shown below; the letters and numbers in bold indicate the corrected values.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

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Table 3 Unlike dispersion interaction energies  $(ε_{kl}/k_B)/K$  and repulsive exponents  $λ_{kl}^r$  for use within the SAFT-γ Mie group-contribution approach. CR indicates a combining rule is used to determine the value of the corresponding parameter. The unlike dispersion interactions indicated with CR are calculated using eqn (7) for uncharged groups and eqn (10) for charged groups. The combining rule is used to determine the value of  $λ_{kl}^r$  is given in eqn (6). The unlike group diameters  $σ_{kl}$  are obtained using the combining rule given in eqn (5) in all cases

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Group k	Group l	$(\varepsilon_{\rm kl}/k_{\rm B})/{ m K}$	$\lambda_{kl}^{r}$	Ref.	Group k	Group l	$(\varepsilon_{\rm kl}/k_{\rm B})/{ m K}$	$\lambda_{\mathrm{kl}}^{\mathrm{r}}$	Ref.
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	256.77	15.050	17	СН=	$\mathrm{Cl}^-$	CR	CR	This work
$\mathrm{CH_3}/^{\mathrm{adj}}\mathrm{CH_3}$	$\mathrm{CH_2}/^{\mathrm{adj}}\mathrm{CH_2}$	350.77	CR	17	COOH	COOH	405.78	8.0000	18
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	$CH_2 =$	333.48	CR	18	COOH	$H_2O$	289.76	CR	19
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	CH=	252.41	CR	18	COOH	$CH_2OH$	656.80	CR	19
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	COOH	255.99	CR	18	COOH	c =	609.87	CR	This work
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	$H_2O$	358.18	100.00	19	COOH	$COO^-$	405.78	8.0000	This work
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	$CH_2OH$	333.20	CR	19	COOH	$N^{+}$	CR	CR	This work
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	c =	281.40	CR	69	COOH	Na <sup>+</sup>	CR	CR	This work
$CH_3$	$COO^-$	255.99	CR	This work	COOH	$K^{+}$	CR	CR	This work
<sup>adj</sup> CH₃	$COO^-$	509.37	CR	This work	COOH	$Cl^-$	CR	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	$\mathbf{N}^{^{+}}$	462.18	CR	This work	$H_2O$	$H_2O$	266.68	17.020	68
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	Na <sup>+</sup>	CR	CR	This work	$H_2O$	$CH_2OH$	353.37	CR	19
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	$K^{+}$	CR	CR	This work	$H_2O$	c=	310.91	8.0000	This work
CH <sub>3</sub> / <sup>adj</sup> CH <sub>3</sub>	$\mathrm{Cl}^-$	CR	CR	This work	$H_2O$	$COO^-$	171.61	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	473.39	19.871	17	$H_2O$	$N^{+}$	1481.3	21.217	This work
CH <sub>2</sub> /adjCH <sub>2</sub>	$CH_2 =$	386.80	CR	18	$H_2O$	Na <sup>+</sup>	539.68	CR	20
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	CH=	459.40	CR	18	$H_2O$	$\mathbf{K}^{+}$	376.25	CR	20
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	COOH	413.74	CR	18	$H_2O$	$\mathrm{Cl}^-$	95.406	CR	20
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	H <sub>2</sub> O	423.63	100.00	19	CH <sub>2</sub> OH	CH <sub>2</sub> OH	407.22	22.699	19
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	CH <sub>2</sub> OH	423.17	CR	19	CH <sub>2</sub> OH	C=	799.66	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	C=	286.58	CR	69	CH <sub>2</sub> OH	COO-	656.80	CR	This work
CH <sub>2</sub>	COO-	413.74	CR	This work	CH <sub>2</sub> OH	$N^{+}$	440.99	CR	This work
<sup>adj</sup> CH <sub>2</sub>	COO-	780.24	CR	This work	CH <sub>2</sub> OH	Na <sup>+</sup>	CR	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	$N^{+}$	348.30	CR	This work	CH <sub>2</sub> OH	$\mathbf{K}^{+}$	CR	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	Na <sup>+</sup>	CR	CR	This work	CH <sub>2</sub> OH	Cl <sup>-</sup>	CR	CR	This work
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	K <sup>+</sup>	CR	CR	This work	C=	C=	1500.0	8.0000	69
CH <sub>2</sub> / <sup>adj</sup> CH <sub>2</sub>	Cl <sup>-</sup>	CR	CR	This work	c=	COO-	609.87	CR	This work
$CH_2 = CH_2$	$CH_2 =$	300.90	20.271	18	C=	$\mathbf{N}^{+}$	CR	CR	This work
$CH_2 =$	CH=	275.75	CR	18	c=	Na <sup>+</sup>	CR	CR	This work
$CH_2 =$	COOH	CR	CR	This work	c=	K <sup>+</sup>	CR	CR	This work
CH <sub>2</sub> =	H <sub>2</sub> O	387.25	94.463	This work	c=	Cl <sup>-</sup>	CR	CR	This work
$CH_2 =$	CH <sub>2</sub> OH	375.51	CR	This work	COO-	COO-	21.264	8.0000	This work
$CH_2 =$	C=	203.76	CR	This work	COO-	$\mathbf{N}^{+}$	24.280	CR	This work
$CH_2 =$	COO-	CR	CR	This work	COO-	Na <sup>+</sup>	9.9125	CR	This work
$CH_2 =$	$N^+$	CR	CR	This work	COO-	K <sup>+</sup>	23.999	CR	This work
$CH_2 =$	Na <sup>+</sup>	CR	CR	This work	COO-	Cl <sup>-</sup>	47.154	CR	This work
$CH_2 =$	K <sup>+</sup>	CR	CR	This work	$\mathbf{N}^{+}$	N <sup>+</sup>	62.971	8.8971	This work
$CH_2 =$	Cl <sup>-</sup>	CR	CR	This work	N <sup>+</sup>	Na <sup>+</sup>	CR	CR	This work
CH <sub>2</sub> — CH=	CH=	952.54	15.974	18 WOLK	N <sup>+</sup>	K <sup>+</sup>	CR	CR	This work
CH=	СООН	453.13	CR	This work	N <sup>+</sup>	Cl <sup>-</sup>	61.989	CR	This work
CH=	H <sub>2</sub> O	332.21	17.309	This work	Na <sup>+</sup>	Na <sup>+</sup>	31.711	12.000	20
CH=	CH <sub>2</sub> OH	414.91	17.309 CR	This work	Na <sup>+</sup>	K <sup>+</sup>	CR	CR	This work
CH=	$CH_2OH$ $C=$	1195.3	CR	69	Na <sup>+</sup>	Cl <sup>-</sup>	27.938	CR	20
CH= CH=	COO-	453.13	CR	This work	Na K <sup>+</sup>	K <sup>+</sup>	90.097	12.000	20
CH= CH=	N <sup>+</sup>	453.13 CR	CR	This work	K K <sup>+</sup>	Cl <sup>-</sup>		12.000 CR	20
CH= CH=	Na <sup>+</sup>	CR	CR	This work	Cl <sup>-</sup>	Cl <sup>-</sup>	61.010 113.77	12.000	20
	Na K <sup>+</sup>				CI	CI	113.//	12.000	20
CH=	K	CR	CR	This work					

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Table 4 Association energy  $\varepsilon_{ab,kl}^{HB}/k_B$  and bonding volume  $K_{ab,kl}^{HB}$  parameters for use within the SAFT- $\gamma$  Mie group-contribution approach. For groups with several site types, the interactions are symmetrical, *i.e.*,  $\varepsilon_{ab,kl}^{HB} = \varepsilon_{ba,kl}^{HB}$ . Interactions not reported here are set to zero

	Site a		Site b			
Group k	of group k	Group l	of group l	$(\varepsilon_{ m ab,kl}^{ m HB}/k_{ m B})/{ m K}$	$K_{\rm ab,kl}^{\rm HB}/{\rm \mathring{A}}^3$	Ref.
СООН	Н	СООН	Н	6427.9	0.8062	18
COOH	$e_1$	$H_2O$	Н	1451.8	280.89	19
COOH	$e_2$	$H_2O$	Н	1252.6	150.98	19
СООН	Н	$H_2O$	$e_1$	2567.7	270.09	19
СООН	$e_1$	CH <sub>2</sub> OH	Н	1015.5	21.827	19
COOH	$e_2$	$CH_2OH$	Н	547.42	53.150	19
COOH	Н	$CH_2OH$	$e_1$	524.04	14.017	19
$H_2O$	$e_1$	$H_2O$	H	1985.4	101.69	68
$H_2O$	$e_1$	$CH_2OH$	Н	621.68	425.00	19
$H_2O$	Н	$CH_2OH$	$e_1$	2153.2	147.40	19
$H_2O$	Н	$COO^-$	$e_1$	802.21	52.5 <b>55</b>	This work
$H_2O$	$e_1$	$\mathbf{N}^{^{+}}$	Н	2783.7	15.536	This work
CH <sub>2</sub> OH	$e_1$	$CH_2OH$	Н	2097.9	62.3 <b>09</b>	19
CH <sub>2</sub> OH	$e_1$	$N^{+}$	Н	1247.2	286.83	This work

### References

<sup>1</sup> S. Dufal, T. Lafitte, A. J. Haslam, A. Galindo, G. N. Clark, C. Vega and G. Jackson, Mol. Phys., 2015, 113, 948-984.

<sup>2</sup> S. Dufal, T. Lafitte, A. J. Haslam, A. Galindo, G. N. Clark, C. Vega and G. Jackson, Mol. Phys., 2018, 116, 283-285.