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Correction: Reactive polycyclic aromatic hydrocarbon dimerization drives soot nucleation

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Correction for 'Reactive polycyclic aromatic hydrocarbon dimerization drives soot nucleation' by M. R. Kholghy *et al.*, *Phys. Chem. Chem. Phys.*, 2018, 20, 10926–10938.

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The authors would like to make the following corrections to the published article.

(1) In the Nomenclature, the following should be added:

A_v	Avogadro number [mole ⁻¹]
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(2) On page 10928, eqn (1) and (2) should be changed as follows. In the correct format, the changes are shown in bold.

Wrong format

$$k_f = 2.2\mathcal{P}10^6 d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}} T^{0.5}$$

$$k_r = 2.2\mathcal{P}10^{6-b} d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}} T^{0.5} e^{(-ae \ln b / R_u T)}$$

Correct format

$$k_f = 2.2\mathcal{P}A_v 10^6 d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}} T^{0.5}$$

$$k_r = 2.2\mathcal{P}A_v 10^{6-b} d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}} T^{0.5} e^{(-ae \ln 10 / R_u T)}$$

This change will affect some formulas listed in Table 1 of page 10928. The changes are shown in bold.

Table 1 Rate coefficients in Arrhenius form: $k = AT^n \exp(-E/RT)$. Units are cm³, K, mol, s, and kcal

Type	#	Reaction	A	n	E	Ref.	
Reversible dimerization	1	$\text{PAH}_i + \text{PAH}_j \rightleftharpoons \text{Dimer}_{ij}^*$	f	$2.2\mathcal{P}A_v 10^6 d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}}$	0.5	0.0	This work
			r	$2.2\mathcal{P}A_v 10^{6-b} d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}}$	0.5	$a\varepsilon \ln \mathbf{10}$	This work
	2	$\text{PAH}_i + \text{PAH}_{j-1} \rightleftharpoons \text{Dimer}_{ij-1}^*$	f	$2.2\mathcal{P}A_v 10^6 d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}}$	0.5	0.0	This work
			r	$2.2\mathcal{P}A_v 10^{6-b} d_{ij}^2 \sqrt{8\pi k_B / \mu_{ij}}$	0.5	$a\varepsilon \ln \mathbf{10}$	This work
Dehydrogenation	3	$\text{Dimer}_{ij}^* + \text{H} \rightleftharpoons \text{Dimer}_{ij-1}^* + \text{H}_2$	f	10^8	1.8	16.35	52, 53
			r	8.68×10^4	2.36	6.09	53
	4	$\text{Dimer}_{ij}^* + \text{OH} \rightleftharpoons \text{Dimer}_{ij-1}^* + \text{H}_2\text{O}$	f	6.72×10^1	3.33	1.46	53
			r	6.44×10^{-1}	3.79	6.68	53
	5	$\text{Dimer}_{ij}^* \rightleftharpoons \text{Dimer}_{ij-1}^* + \text{H}$	f	1.13×10^{16}	-0.06	113.8	53
			r	4.17×10^{13}	0.15	0.0	53
Dimer bond formation	6	$\text{PAH}_{i-1} + \text{PAH}_{j-1} \Rightarrow \text{Dimer}_{ij}$	f	10^9	0.0	11.5	54
	7	$\text{Dimer}_{ij-1}^* \Rightarrow \text{Dimer}_{ij} + \text{H}$	f	10^{11}	0.0	21.9	53, 54
	8	$\text{Dimer}_{ij}^* \Rightarrow \text{Dimer}_{ij} + \text{H}_2$	f	10^8	0.0	36.5	54

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(3) On page 10928, right column after eqn (3):

Wrong value of a	Correct value of a
where $a = 0.38$ and $b = 1.8$	where $a = \mathbf{0.115}$ and $b = 1.8$

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

