



Corrigendum

The P(⁴S) + NH(³Σ⁻) and N(⁴S) + PH(³Σ⁻) reactions as sources of interstellar phosphorus nitride – CORRIGENDUM

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DOI: 10.1017/pasa.2023.13, Published online by Cambridge University Press: 07 March 2023

The authors of this article would like to bring attention to the following correction and modifications.

There was a typo on the values of β reported to fit the rate coefficients to a Arrhenius-Kooji equation (Eq. 5 of the original paper). This parameter appears with the wrong sign in table 2, in the abstract, in the Reaction rates section and in the Conclusions.

The figures presented in the manuscript are correct, and this typo does not change the discussion. This correction is mainly significant in case other authors may use the Arrhenius-Kooji parameters on astrochemical models.

We take the opportunity to redo the fit for the N + PH → P + NH reaction, to avoid the previous very small negative value of gamma (associated with the activation energy), and set it to zero. The change in the curve is negligible, as seen in the updated figure below. All updated values are shown in Table 1 of this correction, which replaces table 2 of the original manuscript.

Table 1. Rate coefficients as a function of temperature for all reactions studied in this work using a modified Arrhenius equation fit.

	$k(T)/\text{cm}^3 \text{ s}^{-1}$
N + PH → H + PN	$0.88 \times 10^{-10} (T/300)^{0.18} \exp(-1.01/T)$
P + NH → H + PN	$0.93 \times 10^{-10} (T/300)^{0.18} \exp(-0.24/T)$
N + PH → P + NH	$5.62 \times 10^{-13} (T/300)^{0.63}$
P + NH → N + PH	$1.93 \times 10^{-13} (T/300)^{1.63} \exp(-3298/T)$
H + PN → N + PH	$2.63 \times 10^{-13} (T/300)^{2.25} \exp(-25333/T)$
H + PN → P + NH	$6.52 \times 10^{-13} (T/300)^{1.91} \exp(-23525/T)$

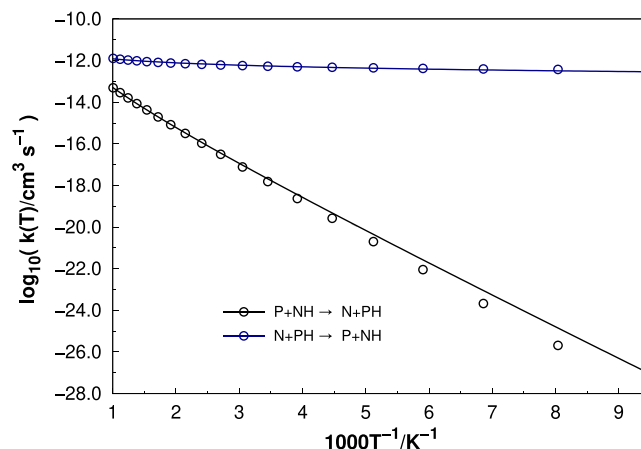


Figure 1. Rate coefficients as a function of temperature for the P + NH → N + PH (black) and N + PH → P + NH (blue) reactions. The points refer to the calculated values at fixed temperatures, while the curves are fits to the modified Arrhenius expressions.

Reference

Gomes, A.C.R., Souza, A.C., Jasper, A.W. and Galvão, B.R.L. The P(⁴S) + NH(³Σ⁻) and N(⁴S) + PH(³Σ⁻) reactions as sources of interstellar phosphorus nitride. Publications of the Astronomical Society of Australia. 2023;40:e011. doi: 10.1017/pasa.2023.13

Cite this article: Gomes ACR, Souza AC, Jasper AW and Galvão BRL. (2024) The P(⁴S) + NH(³Σ⁻) and N(⁴S) + PH(³Σ⁻) reactions as sources of interstellar phosphorus nitride – CORRIGENDUM. Publications of the Astronomical Society of Australia 41, e107, 1. <https://doi.org/10.1017/pasa.2024.117>

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