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Erratum

Erratum to: Inconsistency in Fermi's probability of the quantum states

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For accuracy, a few corrections to the published manuscript need to be taken into consideration with no implications on the conclusion of the paper:

1- The second line in equation (19) has a typo where it should read

$$F = -KT \ln\left(\frac{(Q_{trans}\, Q_{int}\, Q_{conf})^N}{N!}\right) \equiv -NKT\,\left(\ln\left[\frac{Q_{trans}\, Q_{int}\, Q_{conf}}{N}\right] + 1\right).$$

2- The paragraph starting with "Thirdly ..." in Section 2 should be omitted.
3- The first three sentences in the last paragraph in Section 2 should read.

Finally, at the microscopic scale, one realizes that in the derivation of the entropy expression as given by equation (8), the degeneracy of energy levels was neglected and the expression for the entropy given by equation (8), in addition to the above-mentioned missing term, is effectively the sum of the translational entropies of a set of various segregated compartments each of them contains what may be considered as a perfect monatomic gas at a certain specified excitation energy *in addition to the entropy increase due to the change in the available volume per particle up on mixing (misleadingly known as entropy of mixing)*. The number of compartments is necessarily sufficient to contain the numbers of molecules of each kind or each excitation state at pressure P. The ignorance of the degeneracy of each level, therefore, implies that in the case of mixing (removing of the separators among compartments) there will be no entropy change in any *equilibrium* transition between any two levels as each of these levels has *unit* a priori statistical weight.

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