Erratum

Erratum to “Verification, Validation, and Testing of Kinetic Mechanisms of Hydrogen Combustion in Fluid-Dynamic Computations”

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A typing error in Table 1 in page 5 was detected. The chemical equation of reaction R2 was typed incorrectly:

The correct chemical equation is

The correct complete kinetic mechanism can be found in Table 1.

TABLE 1: New skeletal mechanism.

Numbers	Reference number	Reaction	A	n	E_a	Reference
1	R1	$\text{H} + \text{O}_2 \rightarrow \text{OH} + \text{O}$	$1.91e + 14$	0.0	16.44	[30]
2	R2	$\text{H}_2 + \text{O} \rightarrow \text{H} + \text{OH}$	$5.08e + 4$	2.67	6.292	[30]
3	R3	$\text{H}_2 + \text{OH} \rightarrow \text{H} + \text{H}_2\text{O}$	$2.16e + 8$	1.51	3.43	[30]
4	R5	$\text{H}_2 + \text{M} \leftrightarrow \text{H} + \text{H} + \text{M}$	$4.57e + 19$	-1.4	105.1	[13]
5	R6	$\text{O} + \text{O} + \text{M} \leftrightarrow \text{O}_2 + \text{M}$	$6.17e + 15$	-0.5	0.0	[13]
6	R7	$\text{H} + \text{O} + \text{M} \rightarrow \text{OH} + \text{M}$	$4.72e + 18$	-1.0	0.0	[13]
7	R8	$\text{H} + \text{OH} + \text{M} \rightarrow \text{H}_2\text{O} + \text{M}$	$4.5e + 22$	-2.0	0.0	[13]
8	R9	$\text{H} + \text{O}_2 + \text{M} \rightarrow \text{HO}_2 + \text{M}$	$6.17e + 19$	-1.42	0.0	[30]
9	R10	$\text{H} + \text{HO}_2 \rightarrow \text{H}_2 + \text{O}_2$	$1.66e + 13$	0.0	0.82	[13]
10	R-10	$\text{H}_2 + \text{O}_2 \rightarrow \text{H} + \text{HO}_2$	$3.68e + 13$	0.203	54.46	[30]
11	R11	$\text{H} + \text{HO}_2 \rightarrow \text{OH} + \text{OH}$	$1.69e + 14$	0.0	0.87	[30]
12	R13	$\text{OH} + \text{HO}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$	$2.89e + 13$	0.0	-0.5	[13]
13	R15	$\text{H}_2\text{O}_2 + \text{M} \rightarrow \text{OH} + \text{OH} + \text{M}$	$1.2e + 17$	0.0	45.5	[30]
14	R-17	$\text{H}_2 + \text{HO}_2 \rightarrow \text{H} + \text{H}_2\text{O}_2$	$3.42e + 12$	0.202	27.12	[30]

$k = A \cdot T^n \cdot \exp(-E_a/RT)$; units: mol, cm³, K, and kcal; thermodynamic data [5]; the reverse rate constants (R5, R6) are calculated from the forward rate constants through the equilibrium constants.