2007, Volume 111A

Kyle Haygarth, Dorota Janik, Ireneusz Janik, and David M. Bartels*: Neutron and β/γ Radiolysis of Water up to Supercritical Conditions. 1. β/γ Yields for H₂, H• Atom, and Hydrated Electron

Page 7777. In the referenced work, pressure was measured with an Omega PX01 series gauge and strain gauge panel meter (Omega DP25B-S) of ± 0.2 bar stated accuracy. Unfortunately, the pressure readout was being supplied with the incorrect excitation voltage. This resulted in an inaccurate sensitivity factor on the full scale. The error was not large enough to be obvious (e.g., 246 bar rather than 250 bar). We have measured a correct pressure with a new Omega gauge of the same type simultaneously with the old meter with its incorrect configuration. The correction formula (in bar) is

(correct pressure) =
$$0.9948 \times (old reading) - 2.22$$

Tables from the manuscript are given below (Tables 1–3) with corrected values of density and free radical yields. The errors are not large enough to change any of the qualitative discussion or conclusions reached in the manuscript.

TABLE 1: Corrected Temperature Dependence of Radiation Yields of Gaseous Products in Phenol and Ethanol Aqueous Solutions in the Presence of N_2O (2.5 \times 19⁻³ m) Measured at a Constant Pressure of 246 bar from Janik et al.

		$G(X) \times 10^{-7} \text{ (mol/J)}$					
temp	density	in 0.01 <i>m</i> PhOH		in 0.02 m EtOH-d ₆			
(°C)	(kg/dm^{-3})	H_2	N_2	H_2	HD	N_2	
22	1.0000	0.45	2.99	0.44	0.18	2.85	
100	0.9695	0.48	3.37	0.47	0.51	3.23	
200	0.8811	0.54	3.62	0.51	0.78	3.55	
225	0.8525	0.55	3.69				
250	0.8206	0.57	3.74	0.56	0.95	3.65	
275	0.7844	0.63	3.75				
300	0.7425	0.67	3.64	0.67	1.30	4.19	
325	0.6916	0.71	3.57				
350	0.6240	0.75	3.39	0.82	1.98	4.03	
380	0.4357	0.43	1.30	0.89	2.57	1.27	
400	0.1598	1.05	1.95	1.79	3.04	2.01	

TABLE 2: Corrected Density Dependence of Radiation Yields of Gaseous Products in Phenol and Ethanol Aqueous Solutions in the Presence of N_2O (2.5 \times 19⁻³ m) Measured at a Constant Temperature of 380 °C from Janik et al.

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4	$G(X) \times 10^{-7} \text{ (mol/J)}$ in 0.01 m PhOH		1 %	$G(X) \times 10^{-7} \text{ (mol/J)}$ in 0.02 <i>m</i> EtOH- d_6		
density (kg/m ³)	H_2	N_2	density (kg/m ³)	H_2	HD	N_2
0.1177	0.78	2.41	0.1170	2.25	5.47	3.89
0.1461	0.78	2.20	0.1525	1.77	4.81	2.75
0.1859	0.71	1.90	0.1819	1.51	4.37	1.92
0.2121	0.60	1.69	0.2162	1.47	3.99	1.81
0.2404	0.57	1.45	0.2329	1.35	3.56	1.79
0.2751	0.42	1.52	0.2796	1.16	3.34	1.22
0.3501	0.39	1.20	0.3501	0.88	2.79	1.43
0.4386	0.39	1.24	0.4405	1.06	3.01	2.11
0.4400	0.46	1.29	0.5078	1.07	3.07	4.11
0.4953	0.74	2.30	0.5394	1.11	2.85	4.71
0.5504	0.81	3.12				

TABLE 3: Corrected Density Dependence of Radiation Yields of Gaseous Products in Phenol and Ethanol Aqueous Solutions in the Presence of N_2O (2.5 \times 19⁻³ m) Measured at a Constant Temperature of 400 °C from Janik et al.

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	$G(X) \times 10^{-7} \text{ (mol J}^{-1})$ in 0.01 m PhOH			$G(X) \times 10^{-7} \text{ (mol J}^{-1})$ in 0.02 m EtOH- d_6		
density (kg/m ³)	H_2	N_2	density (kg/m ³)	H ₂	HD	N ₂
0.1184	1.08	1.90	0.1173	2.13	3.24	2.31
0.1432	1.00	1.84	0.1463	1.93	3.27	2.02
0.2013	0.78	1.61	0.2013	1.83	2.97	1.91
0.2433	0.66	1.52	0.2433	1.64	2.65	1.78
0.2905	0.69	1.47	0.2905	1.40	2.44	1.71
0.3407	0.62	1.42	0.3407	1.38	2.33	1.68
0.4074	0.58	1.52	0.3986	1.37	2.41	1.55

Kyle Haygarth assisted in the recalibration of the experiment and is thus being added as an author.

10.1021/jp101790p Published on Web 03/23/2010