

Supplementary Material for PCCP

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**The effect of the reaction conditions on the performance of Au-Pd/TiO<sub>2</sub> catalyst for the direct synthesis of hydrogen peroxide**

**Supplementary Data**

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<b>H<sub>2</sub></b>						
<b>T (°C)</b>	<b>P (MPa)</b>	<b>Methanol (mg/Kg)</b>	<b>T (°C)</b>	<b>P (MPa)</b>	<b>Methanol (mg/Kg)</b>	
- 24	0.0006	0	18	0.0117	0	
	0.561	35.647		0.4327	43.786	
	1.361	92.647		1.292	122.757	
	2.271	151.011		2.514	235.313	
- 10	0.0021	0	20	3.104	299.643	
	0.482	36.272		0.1013	10 <sup>23</sup>	
	0.967	67.589		35	0.0277	0
	1.55	115.225		0.752	83.869	
	2.04	147.243		1.383	162.95	
	3.026	213.27		2.635	304.064	
	5	0.0062		0	3.427	389.436
5	0.4533	38.776	35	0.0277	0	
	0.603	51.297		0.752	83.869	
	0.92	77.602		1.383	162.95	
	1.319	117.735		2.635	304.064	
	1.558	133.427		3.427	389.436	
	1.984	178.037				
	2.564	217.678				
	3.011	259.263				

<b>T (°C)</b>	<b>P (MPa)</b>	<b>Water (mg/Kg)</b>
20	0.1013	1.62 <sup>23</sup>
30	0.1013	1.46 <sup>24</sup>
40	0.1013	1.38 <sup>24</sup>

<b>O<sub>2</sub></b>		
<b>T (°C)</b>	<b>P (MPa)</b>	<b>Methanol (mg/Kg)</b>
20	0.1013	409 <sup>23</sup>

<b>T (°C)</b>	<b>P (MPa)</b>	<b>Water (mg/Kg)</b>
20	0.1013	40 <sup>23</sup>
30	0.1013	35 <sup>24</sup>
40	0.1013	31 <sup>24</sup>

<sup>23,24,25</sup> references in the main body of the text.