

## SUPPLEMENTARY MATERIAL

**Table 1.** Imaginary frequencies ( $\text{cm}^{-1}$ ) calculated for the unbound normal mode in the so-called TS1, TS5 and TS6.

		<i>Imaginary frequencies (in <math>\text{cm}^{-1}</math>)</i>		
		TS1	TS5	TS6
<b>b3lyp</b>	<b>6-31G*</b>	-811	-912	-705
	<b>cc-pVDZ</b>	-788	-886	-725
<b>mp2</b>	<b>6-31G*</b>	-887	-974	-794
	<b>cc-pVDZ</b>	-802	-891	-680

**Table 2.** Transmission coefficients calculated using the Wigner approximation for the uncatalyzed (TS1), catalyzed with ammonia (TS5) and catalyzed with OH (TS6), hydrolysis reaction of the TMOS at 273K and 300K.

		<i>Transmission coefficient</i> <i>(at T=273K)</i>			<i>Transmission coefficient</i> <i>(at T=300K)</i>		
		TS1	TS5	TS6	TS1	TS5	TS6
<b>b3lyp</b>	<b>6-31G*</b>	1,019	1,024	1,015	1,016	1,020	1,012
	<b>cc-pVDZ</b>	1,018	1,023	1,015	1,015	1,019	1,013
<b>mp2</b>	<b>6-31G*</b>	1,023	1,028	1,018	1,019	1,023	1,015
	<b>cc-pVDZ</b>	1,019	1,023	1,014	1,016	1,019	1,011