

Supporting Information

One-pot green synthesis of N-acetylglycine from renewable N-acetyl glucosamine

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1. Experimental and computational details

1.1 Materials

NAG (99%), Ag₂O (99%+), WO₃ (99.9%), MoO₃ (99%), CeO₂ (99.99%), Bi₂O₃ (99.99%), Nb₂O₅ (99.99%), acetamide (AcNH₂, 98%), glycollic acid (GA, 99%), V₂O₅ (99.5%), formic acid (FA, ACS grade), NaHCO₃ (AR), K₂CO₃ (99%), CaCO₃ (AR), CH₃COONa (99%) and Co₃O₄ (99.99%) were purchased from Adamas-beta (Shanghai, China). (NH₄)₂CO₃ (ACS), Na₂SO₃ (AR), MgCO₃·5H₂O (AR), KHCO₃ (AR) and Na₂CO₃ (99.95%) were purchased from KESHI (Chengdu China). NaOH (AR), CuO (99%), acetic acid (AA, 99.5%) and AcGly (99%) were purchased from Macklin (Shanghai, China). MgO (AR) was purchased from Greagent (Shanghai, China). MnO₂ (99%) was purchased from Aladdin (Shanghai, China). N-acetyl glucosaminic acid (NAGA) was prepared according to the literature^[1].

1.2 Catalytic activity test and product analysis

The catalytic conversion of NAG and other substrates to AcGly was performed in an autoclave equipped with a stirrer. Typically, the reactor was charged with NAG (66 mg, 0.3 mmol), MgO (20 mg, 0.5 mmol), Ag₂O (12 mg, 0.05 mmol), and water (5 mL) in turn. Pressurized O₂ (typically 0.3 MPa) was introduced into the reactor subsequently. The one-pot transformation was carried out in an oil bath for a desired reaction time. Then the reaction was quenched by cold water and O₂ was released. Filtration was conducted before HPLC analysis.

The quantitative analysis of NAG and products was performed by HPLC (Agilent 1260). The HPLC was equipped with Aminex HPX-87H Column (300 × 7.8 mm, 50 °C), a Refractive Index detector (35 °C) and a PDA detector, where a 5 mM H₂SO₄ solution at a flow rate of 0.6 mL·min⁻¹ was used as the mobile phase. The conversion of NAG and the yields of products were determined based on external standard curves established with authentic samples.

$$\text{Conversion of NAG (\%)} = \text{mol of NAG reacted} / \text{mol of starting NAG} \times 100\%.$$

$$\text{Yield of AcGly (mol\%)} = \text{mol of AcGly formed} / \text{mol of starting NAG} \times 100\%.$$

$$\text{Yield of AcNH}_2 \text{ (mol\%)} = \text{mol of AcNH}_2 \text{ formed} / \text{mol of starting NAG} \times 100\%.$$

$$\text{Yield of NAGA (mol\%)} = \text{mol of NAGA formed} / \text{mol of starting NAG} \times 100\%.$$

$$\text{Yield of FA (mol\%)} = \text{mol of FA formed} / \text{mol of starting NAG} / 8 \times 100\%.$$

$$\text{Yield of AA (mol\%)} = \text{mol of AA formed} / \text{mol of starting NAG} / 4 \times 100\%.$$

$$\text{Yield of GA (mol\%)} = \text{mol of GA formed} / \text{mol of starting NAG} / 4 \times 100\%.$$

1.3 Computational details

A polarized continuum model based on solute electron density (PCM-SMD)^[2-3] were applied to simulate the solvent effect of aqueous solution, using self-consistent reaction field (SCRF) method^[4-7]. Geometry optimizations for the reactants, products, intermediates (IMs), and transition states (TSs) were run to locate all of the stationary points in aqueous solution without any symmetry constraints. The Minnesota M06 functional method^[8-9] with usage of empirical Grimme's D3 dispersion correction (GD3),^[10-11] was employed with the def2-SVP basis set^[12-13] for all atoms, *i.e.*, M06-GD3/def2-SVP/PCM-SMD(water). Moreover, the stability of the DFT wave-function of the auxiliary Kohn–Sham determinant was examined.^[14] Harmonic vibrational frequency calculations were conducted to characterize all stationary point. Herein, minima have zero imaginary frequencies and transition structure (TS) has a unique imaginary frequency. Intrinsic reaction coordinate (IRC) was used to identify transition states connecting two relevant minima.^[15] Unless otherwise specified, the relative Gibbs free energies (ΔG , kcal mol⁻¹) are obtained at the level of M06-GD3/def2-SVP/PCM-SMD(water), under experimental temperature and pressure (403.15 K and 1 atm). All density functional theory (DFT) calculations were carried out with the Gaussian 09 programs.^[16]

2. Supplementary results and discussions

2.1 The HPLC spectra of NAG and AcGly

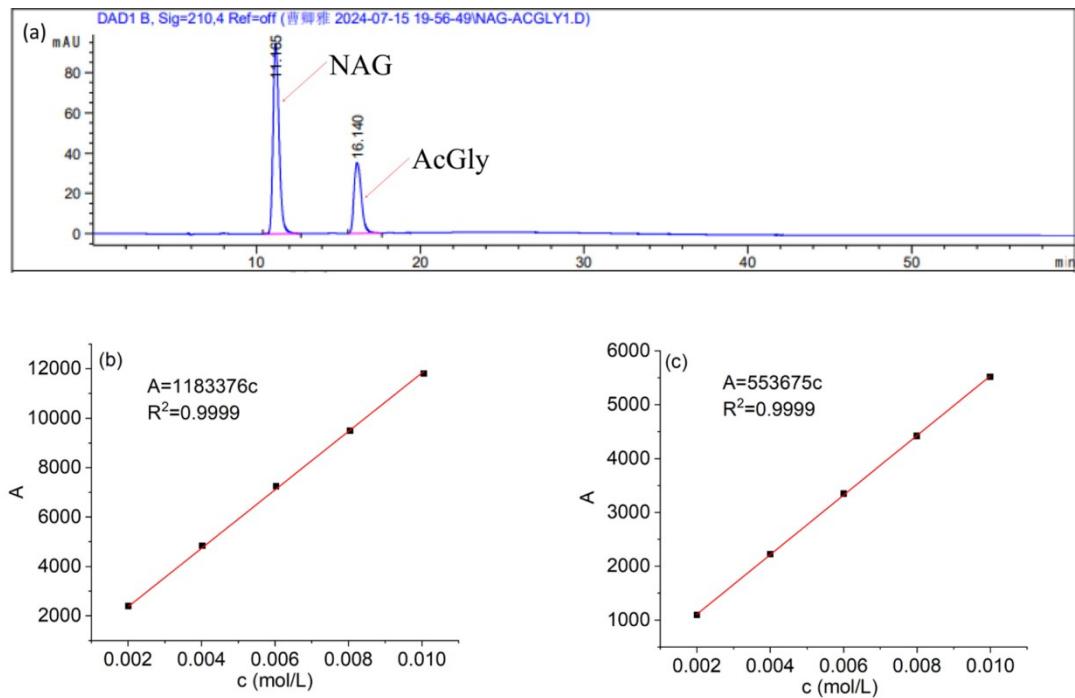


Fig. S2. (a) HPLC spectra of NAG and AcGly; standard curve of (b)NAG and (c) AcGly.

2.2 The recyclability of catalysts

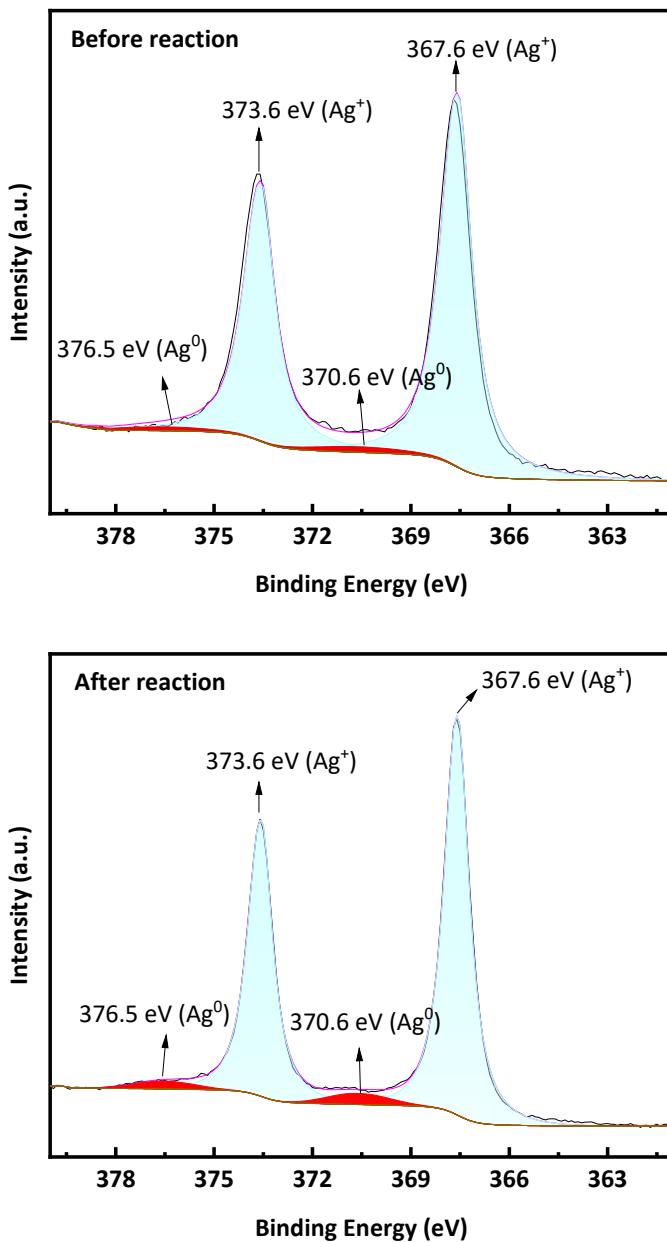


Fig. S2. Deconvoluted Ag 3d XPS spectra of fresh and spent catalysts.

The surface compositions of catalysts were analyzed by XPS. Four peaks (two doublets) are resolvable for the Ag 3d spectra of fresh and spent catalysts. The doublet with the lower binding energy (BE) is from Ag^+ . After reaction, the ratio of Ag^+/Ag^0 decreased from 28.5 to 18.3, indicating that slight reduction of Ag_2O occurred during reaction.

2.3 Possible reaction pathways

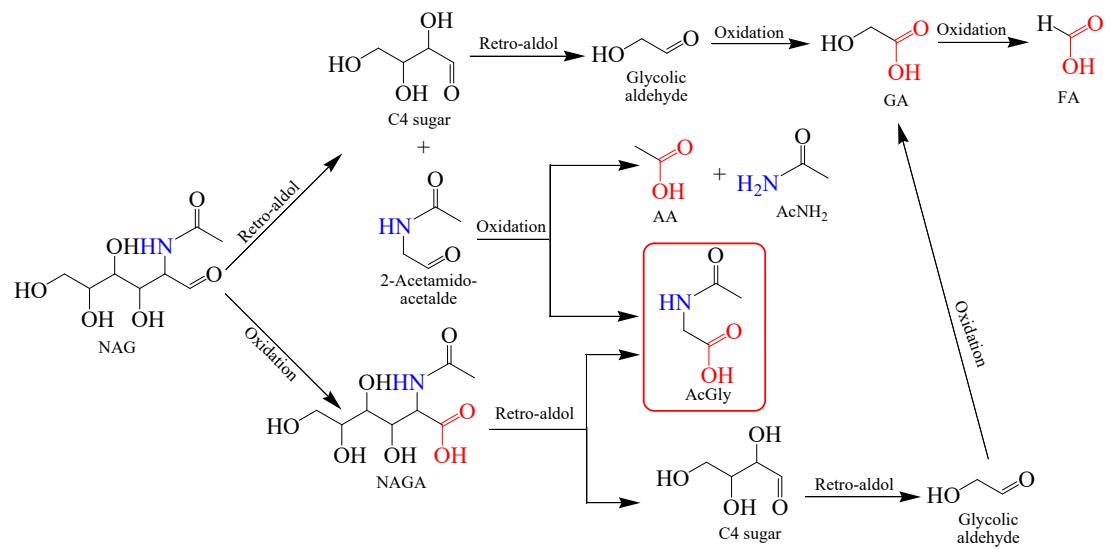
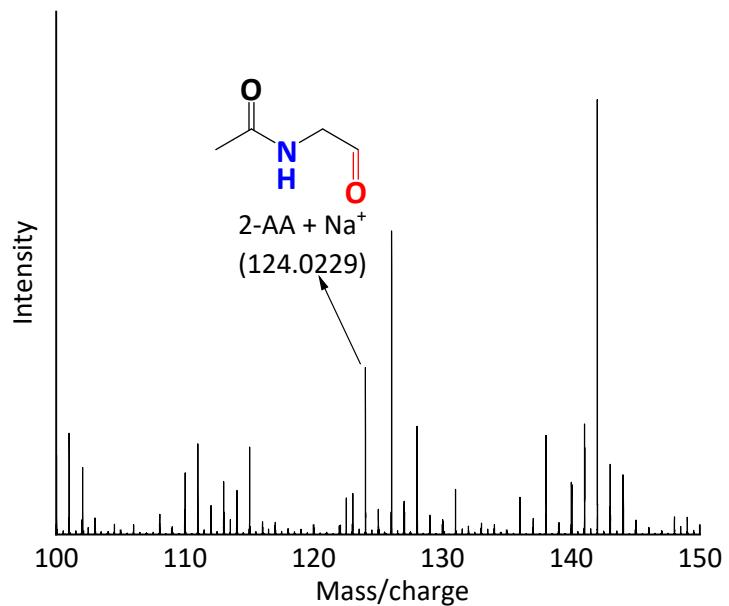


Fig. S3. Possible reaction pathways for the conversion of NAG to identified products.

LC-MS(+)



LC-MS(-)

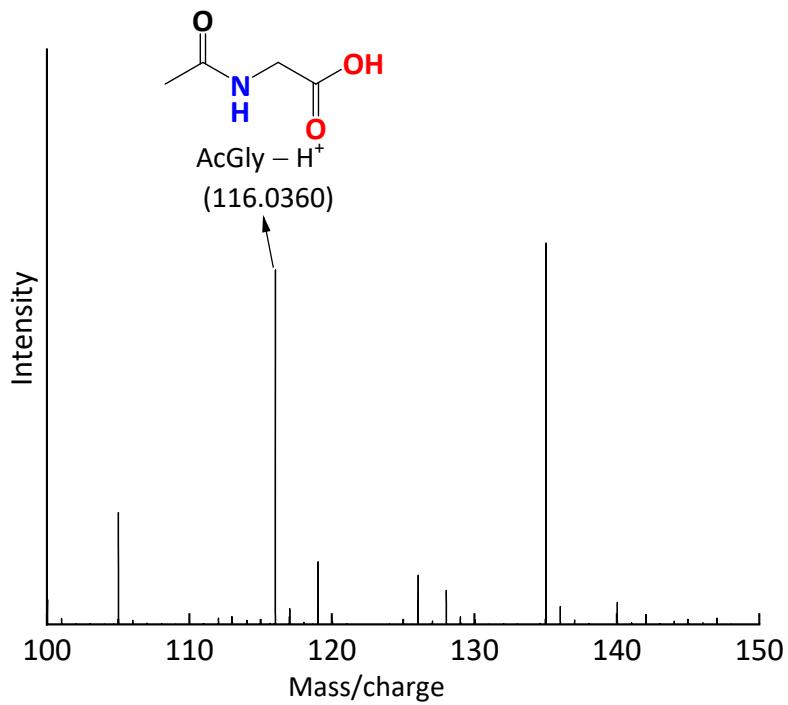


Fig. S4. LC-MS spectra of reaction mixtures after 1 h.

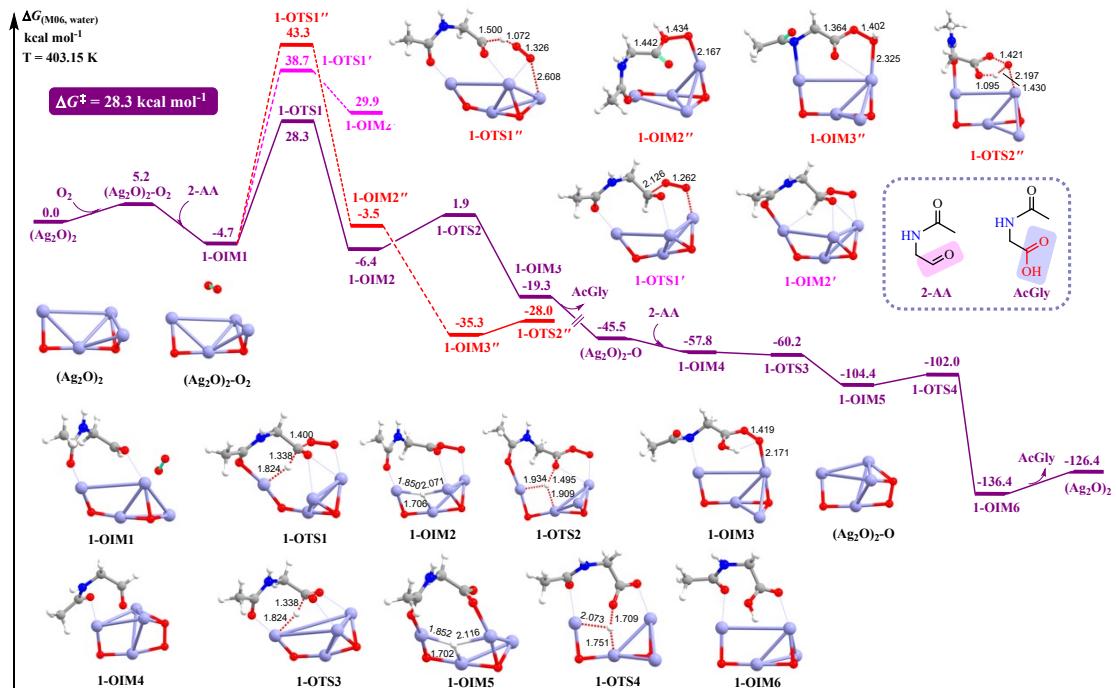


Fig. S5. Gibbs free energy profiles with DFT-optimized structures for the Ag-catalyzed oxidation of **2-AA** to **AcGly**. Selected bond lengths are reported in Å.

The (Ag₂O)₂ cluster are employed as the model of reaction catalyst in the current system^[17-18]

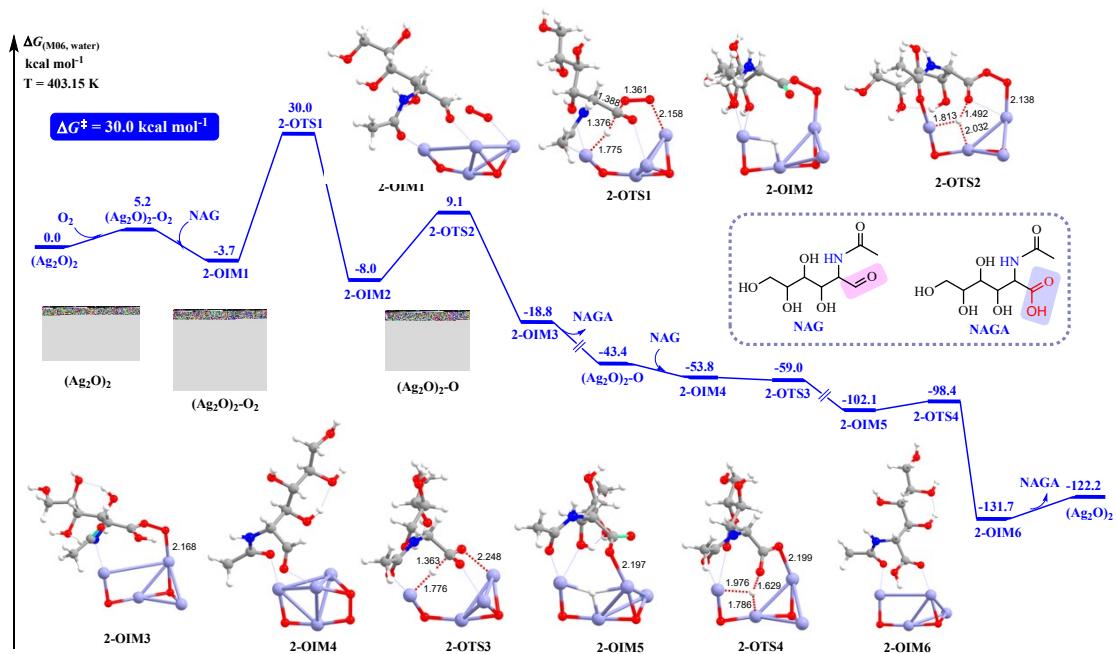


Fig. S6. Gibbs free energy profiles with DFT-optimized structures for the Ag-catalyzed oxidation of **NAG** to **NAGA**. Selected bond lengths are reported in Å.

Table S1. Zero-point energies (*ZPE*, hartree), thermal correction to Gibbs free energy (G_0 , hartree), total energies (E_c , hartree) corrected by the addition of *ZPE*, sum of electronic and thermal free energies (G_c , hartree) with the addition of *ZPE* and thermal corrections, and relative energies (ΔE , kcal mol⁻¹) and relative Gibbs free energies (ΔG , kcal mol⁻¹) of various species with respect to initial reactions for the Mg-catalyzed C–C bond cleavage of NAG under experimental temperature and pressure (403.15 K and 1 atm). IF is imaginary frequency.

Species	<i>ZPE</i>	E_c	G_0	G_c	ΔE	ΔG	IF
NAG	0.24497	-818.70104	0.17569	-818.77032			
Mg(OH)(H ₂ O) ₃ ⁺	0.08564	-504.72659	0.03022	-504.78200			
NAG +							
Mg(OH)(H ₂ O) ₃ ⁺	0.33060	-1323.42763	0.20591	-1323.55232	0.0	0.0	
1-IM1	0.28422	-1170.77611	0.20006	-1170.86027			
H ₂ O	0.02129	-76.31533	-0.00502	-76.34164			
1-IM1 + 2							
H ₂ O	0.32681	-1323.40676	0.19002	-1323.54355	13.1	5.5	
1-TS1	0.28000	-1170.77121	0.19877	-1170.85244			839.64 <i>i</i>
1-TS1 + 2							
H ₂ O	0.32258	-1323.40187	0.18873	-1323.53573	16.2	10.4	
1-IM2	0.28360	-1170.80264	0.20171	-1170.88453			
1-IM2 + 2							
H ₂ O	0.32619	-1323.43330	0.19167	-1323.56782	-3.6	-9.7	
1-TS2	0.28062	-1170.77913	0.19692	-1170.86284			244.18 <i>i</i>
1-TS2 + 2							
H ₂ O	0.32321	-1323.40979	0.18688	-1323.54612	11.2	3.9	
1-IM3	0.15091	-713.35402	0.08686	-713.41807			
C4	0.12805	-457.40692	0.07723	-457.45774			
1-IM3 + C4							
+ 2H ₂ O	0.32155	-1323.39160	0.15405	-1323.55909	22.6	-4.2	
1-TS3'	0.14684	-713.32218	0.08779	-713.38124			1850.40 <i>i</i>
1-TS3' + C4 + 2H₂O							
	0.31748	-1323.35976	0.15498	-1323.52226	42.6	18.9	
1-TS3	0.17088	-789.66741	0.10382	-789.73446			1781.64 <i>i</i>
1-TS3 + C4							
+ H ₂ O	0.32022	-1323.38965	0.17603	-1323.53384	23.8	11.6	
1-IM4	0.15044	-713.34160	0.08576	-713.40628			

1-IM4 + C4							
+ 2H ₂ O	0.32108	-1323.37917	0.15295	-1323.54730	30.4	3.1	
2-AA	0.11088	-361.26456	0.06242	-361.31303			
C4 + 2-AA							
+ Mg(OH)(H ₂ O) ₃ ⁺	0.32457	-1323.39807	0.16987	-1323.55277	18.5	-0.3	

Table S2. Zero-point energies (*ZPE*, hartree), thermal correction to Gibbs free energy (*G*₀, hartree), total energies (*E*_c, hartree) corrected by the addition of *ZPE*, sum of electronic and thermal free energies (*G*_c, hartree) with the addition of *ZPE* and thermal corrections, and relative energies (ΔE , kcal mol⁻¹) and relative Gibbs free energies (ΔG , kcal mol⁻¹) of various species with respect to initial reactions for the Ag-catalyzed oxidation of **2-AA** under experimental temperature and pressure (403.15 K and 1 atm). IF is imaginary frequency.

Species	<i>ZPE</i>	<i>E</i> _c	<i>G</i> ₀	<i>G</i> _c	ΔE	ΔG	IF
2-AA	0.11088	-361.26456	0.06242	-361.31303			
(Ag ₂ O) ₂	0.00593	-738.26844	-0.05601	-738.33038			
O ₂	0.00400	-150.12824	-0.02432	-150.15656			
2*2-AA +							
(Ag ₂ O) ₂ + O ₂	0.23170	-1610.92581	0.04452	-1611.11300	0.0	0.0	
(Ag ₂ O) ₂ -O ₂	0.01067	-888.40477	-0.06327	-888.47871			
2*2-AA + (Ag₂O)₂-O₂	0.23244	-1610.93389	0.06156	-1611.10477	-5.1	5.2	
1-OIM1	0.12405	-1249.71469	0.03124	-1249.80751			
1-OIM1 + 2-AA	0.23494	-1610.97926	0.09366	-1611.12054	-33.5	-4.7	
1-OTS1''	0.11981	-1249.64476	0.03359	-1249.73097			518.09 <i>i</i>
1-OTS1'' + 2-AA	0.23069	-1610.90932	0.09601	-1611.04400	10.3	43.3	
1-OIM2''	0.12764	-1249.72356	0.04558	-1249.80563			
1-OIM2'' + 2-AA	0.23853	-1610.98813	0.10800	-1611.11866	-39.1	-3.5	
1-OIM3''	0.12789	-1249.76950	0.04113	-1249.85627			
1-OIM3'' + 2-AA	0.23878	-1611.03407	0.10355	-1611.16929	-67.9	-35.3	

1-OTS2'	0.12524	-1249.76125	0.04196	-1249.84453			882.64 <i>i</i>
1-OTS2''⁺	0.23613	-1611.02581	0.10438	-1611.15756	-62.8	-28.0	
2-AA							
1-OTS1'	0.12397	-1249.65350	0.03919	-1249.73829			121.78 <i>i</i>
1-OTS1''⁺	0.23486	-1610.91807	0.10161	-1611.05132	4.9	38.7	
2-AA							
1-OIM2'	0.12525	-1249.67191	0.04487	-1249.75229			
1-OIM2''⁺	0.23613	-1610.93648	0.10729	-1611.06532	-6.7	29.9	
2-AA							
1-OTS1	0.12098	-1249.67454	0.04063	-1249.75489			824.41 <i>i</i>
1-OTS1''⁺	0.23187	-1610.93911	0.10305	-1611.06792	-8.3	28.3	
2-AA							
1-OIM2	0.12182	-1249.72694	0.03857	-1249.81020			

Continued Table S2

Species	ZPE	E_c	G_0	G_c	ΔE	ΔG	IF
1-OIM2''⁺	0.23270	-1610.99151	0.10099	-1611.12323	-41.2	-6.4	
2-AA							
1-OTS2	0.12019	-1249.71471	0.03792	-1249.79698			1227.62 <i>i</i>
1-OTS2''⁺	0.23107	-1610.97928	0.10033	-1611.11001	-33.6	1.9	
2-AA							
1-OIM3	0.12825	-1249.74683	0.04430	-1249.83078			
1-OIM3''⁺	0.23913	-1611.01140	0.10672	-1611.14381	-53.7	-19.3	
2-AA							
(Ag₂O)₂₋	0.00878	-813.31725	-0.05437	-813.38040			
O							
AcGly	0.11655	-436.43914	0.06363	-436.49206			
(Ag₂O)₂₋							
O⁺							
AcGly⁺	0.23622	-1611.02096	0.07168	-1611.18549	-59.7	-45.5	
2-AA							
1-OIM4	0.12184	-1174.63055	0.03938	-1174.71302			
1-OIM4''⁺	0.23840	-1611.06969	0.10301	-1611.20508	-90.3	-57.8	
AcGly							
1-OTS3	0.11533	-1174.63639	0.03479	-1174.71693			364.58 <i>i</i>
1-OTS3''⁺	0.23189	-1611.07553	0.09842	-1611.20900	-94.0	-60.2	
AcGly							

1-OIM5	0.11810	-1174.70409	0.03490	-1174.78730			
1-OIM5 ⁺ AcGly	0.23466	-1611.14324	0.09853	-1611.27936	-136.4	-104.4	
1-OTS4	0.11596	-1174.70268	0.03509	-1174.78355			575.81 <i>i</i>
1-OTS4 ⁺ AcGly	0.23252	-1611.14183	0.09872	-1611.27562	-135.6	-102.0	
1-OIM6	0.12554	-1174.75711	0.04428	-1174.83837			
1-OIM6 ⁺ AcGly	0.24209	-1611.19625	0.10791	-1611.33043	-169.7	-136.4	
2AcGly ⁺ (Ag₂O)₂	0.23903	-1611.14673	0.07126	-1611.31451	-138.6	-126.4	

Table S3. Zero-point energies (*ZPE*, hartree), thermal correction to Gibbs free energy (G_0 , hartree), total energies (E_c , hartree) corrected by the addition of *ZPE*, sum of electronic and thermal free energies (G_c , hartree) with the addition of *ZPE* and thermal corrections, and relative energies (ΔE , kcal mol⁻¹) and relative Gibbs free energies (ΔG , kcal mol⁻¹) of various species with respect to initial reactions for the Ag-catalyzed oxidation of **NAG** under experimental temperature and pressure (403.15 K and 1 atm). IF is imaginary frequency.

Species	<i>ZPE</i>	E_c	G_0	G_c	ΔE	ΔG	IF
NAG	0.24497	-818.70104	0.17569	-818.77032			
(Ag₂O)₂	0.00593	-738.26844	-0.05601	-738.33038			
O ₂	0.00400	-150.12824	-0.02432	-150.15656			
2NAG +							
(Ag₂O)₂ + O₂	0.49986	-2525.79876	0.27105	-2526.02757	0.0	0.0	
(Ag₂O)₂-O₂	0.01067	-888.40477	-0.06327	-888.47871			
2NAG +							
(Ag₂O)₂-O₂	0.50060	-2525.80684	0.28810	-2526.01935	-5.1	5.2	
2-OIM1	0.25838	-1707.15424	0.14941	-1707.26321			
2-OIM1 +							
NAG	0.50334	-2525.85528	0.32510	-2526.03353	-35.5	-3.7	
2-OTS1	0.25386	-1707.10772	0.15207	-1707.20951			811.03 <i>i</i>
2-OTS1 +							
NAG	0.49883	-2525.80876	0.32776	-2525.97983	-6.3	30.0	
2-OIM2	0.25555	-1707.16449	0.14999	-1707.27005			
2-OIM2 +							
NAG	0.50052	-2525.86553	0.32568	-2526.04037	-41.9	-8.0	
2-OTS2	0.25450	-1707.14424	0.15595	-1707.24278			1269.83 <i>i</i>
2-OTS2 +							
NAG	0.49947	-2525.84527	0.33164	-2526.01310	-29.2	9.1	
2-OIM3	0.26090	-1707.18320	0.15683	-1707.28727			
2-OIM3 +							
NAG	0.50587	-2525.88424	0.33252	-2526.05759	-53.6	-18.8	
(Ag₂O)₂-O	0.00878	-813.31725	-0.05437	-813.38040			
NAGA	0.25098	-893.87532	0.18032	-893.94597			
(Ag₂O)₂-O +							
NAGA +	0.50473	-2525.89360	0.30164	-2526.09669	-59.5	-43.4	
NAG							
2-OIM4	0.25568	-1632.06590	0.15427	-1632.16732			
2-OIM4 +							
NAGA	0.50666	-2525.94122	0.33459	-2526.11329	-89.4	-53.8	

2-OTS3	0.24907	-1632.07653	0.14997	-1632.17562		336.51 <i>i</i>
2-OTS3⁺ NAGA	0.50005	-2525.95184	0.33030	-2526.12160	-96.1	-59.0

Continued Table S3

Species	ZPE	E_c	G_0	G_c	ΔE	ΔG	IF
2-OIM5	0.25124	-1632.14144	0.14844	-1632.24423			
2-OIM5⁺ NAGA	0.50222	-2526.01675	0.32877	-2526.19020	-136.8	-102.1	
2-OTS4	0.24988	-1632.13830	0.14984	-1632.23834			775.91 <i>i</i>
2-OTS4⁺ NAGA	0.50086	-2526.01362	0.33017	-2526.18431	-134.8	-98.4	
2-OIM6	0.25833	-1632.18802	0.15485	-1632.29151			
2-OIM6⁺ NAGA	0.50931	-2526.06334	0.33517	-2526.23748	-166.0	-131.7	
2NAGA⁺ (Ag₂O)₂	0.50789	-2526.01907	0.30464	-2526.22232	-138.2	-122.2	

Table S4. Zero-point energies (*ZPE*, hartree), thermal correction to Gibbs free energy (G_0 , hartree), total energies (E_c , hartree) corrected by the addition of *ZPE*, sum of electronic and thermal free energies (G_c , hartree) with the addition of *ZPE* and thermal corrections, and relative energies (ΔE , kcal mol⁻¹) and relative Gibbs free energies (ΔG , kcal mol⁻¹) of various species with respect to initial reactions for the Mg-catalyzed C–C bond cleavage of NAGA under experimental temperature and pressure (403.15 K and 1 atm). IF is imaginary frequency.

Species	<i>ZPE</i>	E_c	G_0	G_c	ΔE	ΔG	IF
NAGA	0.25098	-893.87532	0.18032	-893.94597			
Mg(OH)(H ₂ O) ₃ ⁺	0.08564	-504.72659	0.03022	-504.78200			
NAGA +							
Mg(OH)(H ₂ O) ₃ ⁺	0.33662	-1398.60191	0.21055	-1398.72798	0.0	0.0	
2-IM1	0.29000	-1245.95325	0.20372	-1246.03954			
H ₂ O	0.02129	-76.31533	-0.00502	-76.34164			
2-IM1 + 2 H₂O	0.33259	-1398.58391	0.19368	-1398.72283	11.3	3.2	
2-TS1	0.28583	-1245.94795	0.20223	-1246.03154			804.96 <i>i</i>
2-TS1 + 2 H₂O	0.32841	-1398.57860	0.19219	-1398.71482	14.6	8.3	
2-IM2	0.28936	-1245.97957	0.20493	-1246.06400			
2-IM2 + 2 H₂O	0.33194	-1398.61023	0.19489	-1398.74728	-5.2	-12.1	
2-TS2	0.28550	-1245.94452	0.20031	-1246.02971			218.49 <i>i</i>
2-TS2 + 2 H₂O	0.32809	-1398.57518	0.19027	-1398.71300	16.8	9.4	
2-IM3	0.15587	-788.51010	0.09043	-788.57553			
C4	0.12805	-457.40692	0.07723	-457.45774			
2-IM3 + C4 + 2H₂O	0.32650	-1398.54767	0.15762	-1398.71656	34.0	7.2	
2-TS3'	0.15249	-788.49480	0.09123	-788.55606			1546.20 <i>i</i>
2-TS3' + C4 + 2H₂O	0.32313	-1398.53238	0.15842	-1398.69709	43.6	19.4	
2-TS3	0.17683	-864.83941	0.10827	-864.90797			1634.63 <i>i</i>
2-TS3 + C4 + H₂O	0.32617	-1398.56166	0.18048	-1398.70736	25.3	12.9	
2-IM4	0.15619	-788.52031	0.08943	-788.58707			
2-IM4 + C4	0.32683	-1398.55788	0.15662	-1398.72810	27.6	-0.1	

+ 2H₂O

AcGly 0.11655 -436.43914 0.06363 -436.49206

C4 + AcGly

+
Mg(OH)(H₂O)₃⁺ 0.33024 -1398.57265 0.17108 -1398.73181 18.4 -2.4

Cartesian coordinates of all optimized structures of the stationary points.

NAG			8	1.263003	0.224443	1.727816	
6	-3.632928	-0.426368	0.560226	1	1.701366	1.075425	1.877879
6	-2.430385	-0.112373	-0.293222	8	1.550797	0.882606	-1.390740
6	-1.297962	-1.116062	-0.123047	1	1.737947	0.681279	-2.320555
6	0.032307	-0.651054	-0.728465	8	3.072054	-1.602686	-0.234894
6	-0.023708	-0.172602	-2.193916	1	3.161426	-2.474759	0.178642
6	-0.621184	1.203275	-2.392823	1	0.428633	0.271785	2.218606
8	-1.916380	1.160933	0.048261	1	0.854634	1.557607	-1.417591
8	-4.589392	0.574990	0.301959	1	3.872829	-1.118402	0.018746
8	-1.627671	-2.355764	-0.711590	1-IM1			
1	-5.280614	0.522277	0.974853	6	-3.750488	-0.800460	0.542553
1	-1.245445	-1.845523	-2.632182	6	-2.658727	-0.218920	-0.319953
1	-4.016524	-1.436451	0.314439	6	-1.296630	-0.846787	-0.055476
1	-1.098202	-1.236445	0.962464	6	-0.126532	-0.046505	-0.631781
1	1.036742	-0.017229	-2.483063	6	-0.192547	0.307513	-2.137463
1	-3.321831	-0.432480	1.623905	6	-0.975729	1.559980	-2.435095
8	0.656498	0.311712	0.082220	8	-2.533023	1.168203	-0.061567
1	0.676010	-1.549072	-0.730895	8	-4.927714	-0.093854	0.229641
1	-2.355093	-2.762578	-0.220719	8	-1.203565	-2.145196	-0.590575
1	-0.025815	0.965434	0.314696	1	-5.586793	-0.273635	0.912627
1	-2.755187	-0.121699	-1.356711	1	-0.909554	-1.667929	-2.503031
8	-1.523469	1.452454	-3.157222	1	-3.851009	-1.885812	0.345117
7	-0.607586	-1.168004	-3.051174	1	-1.127326	-0.857290	1.041935
6	-0.396620	-1.161321	-4.386594	1	0.847220	0.588579	-2.407217
8	0.351877	-0.345865	-4.924630	1	-3.467893	-0.674200	1.606477
6	-1.133391	-2.202043	-5.170607	8	0.089844	1.133599	0.129085
1	-1.605803	-2.967834	-4.540632	1	0.760137	-0.690249	-0.509776
1	-1.913539	-1.703089	-5.767049	1	-1.807903	-2.736561	-0.120702
1	-0.438823	-2.677400	-5.878279	1	-0.795177	1.427742	0.442908
1	-2.661685	1.781375	0.077120	1	-2.932880	-0.384546	-1.384253
1	-0.102164	2.009339	-1.820903	8	-0.543965	2.661095	-2.123957
Mg(OH)(H ₂ O) ₃ ⁺			7	-0.617786	-0.797266	-2.950309	
12	1.262840	-0.667666	-0.100718	6	-0.631762	-0.628346	-4.291556
8	-0.262658	-1.755568	-0.192191	8	-0.324687	0.460380	-4.782936
1	-0.441208	-2.271843	-0.983228	6	-1.024678	-1.805007	-5.120066

1	-1.338875	-2.669028	-4.519863	1	-0.370868	-2.273775	-5.682212	
1	-1.838233	-1.508092	-5.798108	1	-3.204399	1.751152	-0.460987	
1	-0.168088	-2.092743	-5.748890	1	-1.828026	1.469936	-2.898543	
1	-3.427702	1.532351	0.041765	12	0.975808	2.935933	-0.547291	
1	-1.963084	1.462946	-2.936114	8	2.728025	2.956459	-1.556079	
12	0.895096	2.943514	-0.621911	1	3.570707	2.903887	-1.079476	
8	2.732897	2.487913	-1.347462	8	-0.107083	2.909045	1.102966	
1	3.430389	2.285079	-0.704918	1	-1.024602	3.194976	1.026197	
8	0.554231	4.176679	0.740336	1	2.804929	2.319610	-2.284413	
1	0.797205	5.100154	0.628324	1-IM2				
1	2.825957	1.822716	-2.046835	6	-3.294835	-0.291400	0.749849	
1-TS1								
6	-3.671457	-0.472715	0.526005	6	-2.122779	0.146860	-0.098263	
6	-2.531175	-0.058471	-0.370281	6	-1.063783	-0.935287	-0.263097	
6	-1.218382	-0.732719	0.002405	6	0.181311	-0.516501	-1.068120	
6	0.036249	-0.135928	-0.648355	6	-0.124856	-0.048939	-2.527254	
6	-0.097712	0.244639	-2.141006	6	-0.847959	1.259294	-2.663815	
6	-0.839868	1.530707	-2.393897	8	-1.549728	1.294885	0.516927	
8	-2.342403	1.336869	-0.298579	8	-4.116186	0.842709	0.908113	
8	-4.826255	0.178855	0.051854	1	-4.690561	0.707679	1.673175	
8	-1.245827	-2.094037	-0.378800	1	-1.289670	-1.786333	-2.837903	
1	-5.523666	0.090706	0.714596	1	-3.828923	-1.121358	0.251980	
1	-0.958494	-1.680472	-2.441152	1	-0.683286	-1.192051	0.747109	
1	-3.787689	-1.574934	0.511477	1	0.878718	0.172297	-2.947161	
1	-1.065190	-0.632010	1.098042	1	-2.914910	-0.659287	1.723249	
1	0.939323	0.475869	-2.464033	8	0.931149	0.413697	-0.406740	
1	-3.428541	-0.174194	1.565359	1	0.728490	-1.477534	-1.223583	
8	0.593996	0.925867	0.060372	1	-2.171481	-2.559687	-0.240576	
1	0.755300	-0.978566	-0.645189	1	-2.521187	0.421046	-1.103042	
1	-1.974028	-2.540199	0.075917	8	-0.604372	2.264114	-2.011403	
1	-0.006600	1.614101	0.690274	7	-0.750441	-1.071968	-3.326815	
1	-2.792157	-0.356563	-1.409355	6	-0.642463	-1.076298	-4.674196	
8	-0.359469	2.620938	-2.108837	8	-0.017791	-0.201215	-5.275336	
7	-0.621831	-0.844381	-2.920869	6	-1.318754	-2.203126	-5.389099	
6	-0.669487	-0.725906	-4.266781	1	-1.834029	-2.901622	-4.716185	
8	-0.299177	0.313115	-4.817192	1	-2.042003	-1.785711	-6.105908	
6	-1.177410	-1.903873	-5.030595	1	-0.565141	-2.750910	-5.975277	
1	-1.524016	-2.721109	-4.384337	1	-2.295659	1.840431	0.830450	
1	-1.997900	-1.576795	-5.686252	1	-1.643117	1.296414	-3.445203	

12	0.265799	2.200445	-0.085428	1	2.356253	3.795829	0.337663	
8	2.076472	3.142547	-0.346648	8	-0.475290	4.057558	0.749726	
1	2.295344	3.965402	0.115157	1	-0.157055	4.888897	0.365967	
8	-0.430869	3.934992	0.766847	1	2.822517	2.465807	-0.290569	
1	-0.014149	4.777937	0.532135	1	-1.433912	4.168871	0.840780	
1	2.889090	2.615626	-0.340674	1-IM3				
1	-1.384781	4.105839	0.758881	6	-1.001173	0.221472	-2.589676	
1-TS2				6	-0.036856	0.830923	-1.855635	
6	-3.228085	-0.249120	1.019547	1	-1.582173	-0.272811	-4.520488	
6	-2.137209	0.249526	0.103327	1	-2.039022	0.274256	-2.250762	
6	-1.213592	-0.876220	-0.350342	8	1.240396	0.941230	-2.099352	
6	0.119494	-0.496727	-0.959170	7	-0.837376	-0.428595	-3.841995	
6	-0.288334	0.251171	-3.074101	6	0.093537	-1.304641	-4.213499	
6	-1.009071	1.349118	-2.642869	8	1.037961	-1.657304	-3.460831	
8	-1.408218	1.261875	0.795302	6	-0.008244	-1.888622	-5.578916	
8	-3.981092	0.882288	1.389931	1	-0.905233	-1.569895	-6.125511	
8	-1.901206	-1.720993	-1.237653	1	0.887644	-1.604301	-6.152670	
1	-4.490313	0.672098	2.183853	1	0.001434	-2.985652	-5.491446	
1	-1.674293	-1.282944	-3.348451	1	-0.411758	1.300746	-0.923895	
1	-3.836684	-1.005682	0.489862	12	2.373202	-0.575436	-2.474903	
1	-0.894707	-1.436738	0.558171	8	3.107254	-1.896027	-1.129510	
1	0.800827	0.318987	-3.172806	1	3.659583	-1.590565	-0.393627	
1	-2.764589	-0.736235	1.899512	8	3.956596	-0.107288	-3.649711	
8	0.837751	0.401635	-0.470435	1	4.294833	-0.776102	-4.264797	
1	0.575867	-1.343668	-1.512047	1	3.946665	0.722401	-4.150751	
1	-2.342597	-2.423413	-0.741286	1	2.498080	-2.543496	-0.742276	
1	-2.612079	0.689205	-0.796566	C4				
8	-0.528206	2.331734	-1.979565	6	-3.591727	-0.360785	0.515800	
7	-0.909067	-0.788360	-3.806244	6	-2.250419	0.159953	0.072814	
6	-0.371061	-1.314060	-4.930964	6	-1.285207	-0.983198	-0.262287	
8	0.632656	-0.839214	-5.465690	6	0.039330	-0.464343	-0.755808	
6	-1.066083	-2.517921	-5.487896	8	-1.717838	0.948801	1.111971	
1	-1.991223	-2.777168	-4.955345	8	-4.457040	0.733764	0.701008	
1	-1.291804	-2.338723	-6.549830	8	-1.774787	-1.864020	-1.240734	
1	-0.376419	-3.375743	-5.447383	1	-5.315601	0.389239	0.977770	
1	-2.071753	1.793210	1.274409	1	-3.975238	-1.060946	-0.249903	
1	-2.107799	1.316283	-2.821518	1	-1.052935	-1.509861	0.691155	
12	0.185808	2.305812	-0.099297	1	-3.447163	-0.937154	1.454007	
8	2.072533	3.077963	-0.247864	8	0.550126	0.572846	-0.396522	

1	-2.313958	-2.541533	-0.811475	12	1.984449	-1.171440	-2.142466
1	-2.402275	0.763385	-0.850094	8	2.957108	-0.674144	-0.378266
1	-0.839476	1.240109	0.813055	1	3.549576	0.092882	-0.383213
1	0.536277	-1.134610	-1.500732	8	3.805063	-0.897138	-3.051409
1-TS3'				1	4.637246	-1.025087	-2.572226
6	-0.499744	-0.462511	-2.253389	1	3.952913	-1.265152	-3.935309
6	0.360951	0.591223	-1.811372	1	-0.506613	-1.382591	-1.793957
1	-1.632838	-0.637941	-3.997442	8	0.486819	-2.108315	-1.201773
1	-1.466588	-0.494748	-1.741946	1	2.403060	-0.559741	0.408090
8	1.470596	0.850556	-2.316999	1	0.324931	-3.009573	-1.508732
7	-0.675268	-0.732164	-3.665153	1-IM4			
6	0.213624	-1.104237	-4.586343	6	-0.776071	-0.302852	-2.406758
8	1.435661	-1.258846	-4.357267	6	0.151441	0.850394	-2.118630
6	-0.297548	-1.344008	-5.964737	1	-1.592675	-0.338217	-4.373457
1	-1.381393	-1.202305	-6.062014	1	-1.797879	-0.055126	-2.097179
1	0.225996	-0.666309	-6.656022	8	1.357632	0.705442	-2.033996
1	-0.031686	-2.370972	-6.258237	7	-0.786047	-0.621454	-3.820796
1	0.081562	1.068394	-0.845783	6	0.180721	-1.319323	-4.425458
12	2.561193	-0.905555	-2.750128	8	1.208195	-1.686537	-3.818616
8	1.470389	-2.087864	-1.616583	6	-0.011687	-1.673173	-5.854994
1	1.623058	-2.119468	-0.663305	1	-0.946429	-1.282519	-6.276054
8	4.387146	-0.423057	-3.464773	1	0.845411	-1.293171	-6.430498
1	4.450320	0.239913	-4.169836	1	0.001225	-2.770491	-5.941172
1	5.092394	-0.198849	-2.838218	1	-0.289503	1.863137	-2.002636
1	0.324888	-1.375420	-1.772332	12	2.454940	-1.080930	-2.364984
1-TS3				8	2.597939	-1.841745	-0.661400
6	-1.090734	-0.506492	-2.572325	1	3.138193	-2.621184	-0.503935
6	-0.277356	0.548331	-2.049007	8	4.002531	-0.098097	-3.256373
1	-1.747508	-0.840375	-4.526558	1	4.624083	-0.589805	-3.814492
1	-2.154192	-0.414237	-2.330441	1	3.782282	0.698570	-3.763950
8	0.936958	0.681734	-2.290075	1	-0.431588	-1.177086	-1.826500
7	-0.924176	-0.950851	-3.939067	2-AA			
6	0.134783	-1.506178	-4.532372	6	-0.192708	-0.200085	-2.317366
8	1.232295	-1.699922	-3.966578	6	-0.854232	1.111316	-2.610461
6	-0.024228	-1.905666	-5.960489	1	-1.416647	-1.869314	-2.769766
1	0.723177	-1.365337	-6.561136	1	0.894670	-0.046684	-2.442927
1	0.207474	-2.978089	-6.048092	8	-1.693914	1.281696	-3.461878
1	-1.026646	-1.713791	-6.364761	7	-0.658504	-1.291551	-3.121343
1	-0.740695	1.157488	-1.240605	6	-0.314385	-1.395904	-4.426950

8	0.514333	-0.646824	-4.942497	1	-1.562444	-1.846611	-1.829097
6	-1.003783	-2.474917	-5.201856	8	-0.348051	1.025893	-1.338996
1	-1.508363	-3.213463	-4.564060	1	-0.639501	-0.510518	-0.033398
1	-1.754086	-2.007235	-5.859309	6	-1.896449	0.410183	-5.319519
1	-0.271451	-2.977925	-5.849236	1	-2.789833	0.045147	-5.846647
1	-0.498840	1.952891	-1.964688	1	-1.955719	1.509335	-5.301143
1	-0.333166	-0.418743	-1.246221	1	-0.993777	0.105966	-5.864668
				1	0.173531	-1.864815	-2.043395
(Ag₂O)₂				7	-0.836772	-0.718849	-3.464844
47	-1.555813	0.554290	0.775981	8	-2.945244	0.099149	-3.220473
47	0.160675	1.672658	-1.426262	1	-0.038766	-0.795887	-4.090461
8	-3.342753	1.930838	0.343175	1-OTS1”			
47	-2.906684	1.644765	-1.682590	47	-3.537340	1.999002	1.231264
47	-1.547827	3.368037	0.383785	47	-3.781377	0.404648	-1.232847
8	0.254373	1.965330	0.640922	8	-4.844826	0.611560	0.501072
O₂				47	-0.792277	2.561645	0.529520
8	-2.217341	-0.935114	-0.029227	47	-1.617729	1.763062	3.379756
8	-3.409525	-0.935114	-0.029227	8	-2.142603	3.385227	1.978072
(Ag₂O)₂-O₂				8	-0.212466	-0.389061	1.263520
47	-3.411026	1.185302	1.384306	8	0.176764	0.774066	1.766403
47	-2.789959	0.322889	-1.327308	6	-1.937208	-0.099680	-3.923699
8	-4.389882	1.281513	-0.398647	6	-0.722707	-1.084945	-2.044170
47	-0.996386	2.477153	2.446666	6	-0.390847	0.078082	-1.166541
47	-1.280074	-0.541148	2.313229	1	-1.647532	-1.507758	-1.607319
8	-2.410280	1.061333	3.226642	8	-0.279059	1.236867	-1.298974
8	-0.059467	0.510996	-0.439641	1	-0.039162	-0.414671	0.205881
8	0.165774	1.649561	-0.160146	6	-1.927394	0.172733	-5.386777
1-OIM1				1	-1.024696	-0.194477	-5.891200
47	-3.572796	1.594366	1.184784	1	-2.815945	-0.297958	-5.833525
47	-3.659035	-0.108143	-1.165929	1	-2.022195	1.258041	-5.541252
8	-4.425119	-0.210719	0.733719	1	0.058521	-1.844367	-1.893495
47	-1.133030	2.568529	0.138862	7	-0.860950	-0.743293	-3.419533
47	-1.692114	2.579532	3.229352	8	-2.897814	0.244825	-3.226648
8	-2.565717	3.436331	1.477371	1	-0.070925	-0.924650	-4.036382
8	-0.016708	0.270291	2.464596	1-OIM2”			
8	0.763929	0.840284	1.763902	47	-1.682762	0.182676	1.112132
6	-1.929642	-0.085606	-3.914758	47	-1.564145	-1.041297	-1.438753
6	-0.708816	-1.207155	-2.122221	8	-2.690205	-1.380976	0.253029
6	-0.557695	-0.147804	-1.083909	47	-0.314686	1.946850	-0.577746

47	1.165627	0.497916	1.498016	1	-4.760717	4.344795	-1.828727	
8	-0.448961	1.823576	1.646142	1	-3.009962	1.377528	-2.725208	
8	2.019376	-1.869988	0.142501	1-OTS2”				
8	2.670805	-1.004481	1.082473	47	-3.615947	0.162946	2.280195	
6	0.418329	-1.257033	-3.972890	47	-3.915317	0.558871	-0.565965	
6	1.352113	-2.511168	-2.079834	8	-4.992318	1.095555	1.093347	
6	1.940431	-1.432505	-1.228816	47	-1.834234	1.080597	4.419419	
1	0.350374	-2.743952	-1.665923	47	-0.784086	-0.168845	1.921883	
8	2.248059	-0.323383	-1.481498	8	-2.117859	-0.805858	3.419360	
1	2.262179	-2.812946	0.311953	6	-0.656559	1.884550	-0.950636	
6	0.565394	-0.937640	-5.420039	8	-0.499193	2.687519	-0.000972	
1	1.384855	-1.484141	-5.904371	8	-0.100915	0.715596	-0.827068	
1	-0.383175	-1.166380	-5.928249	8	0.574885	0.687652	0.422871	
1	0.735942	0.144715	-5.521730	1	0.133906	2.035225	0.608997	
1	1.945897	-3.430575	-1.957099	6	-1.432841	2.194281	-2.173952	
7	1.295952	-2.138093	-3.458167	1	-2.474039	2.379483	-1.845918	
8	-0.478497	-0.716754	-3.307322	1	-1.065934	3.160636	-2.552231	
1	2.025865	-2.493046	-4.071323	7	-1.360180	1.195512	-3.195580	
1-OIM3”				6	-2.104210	0.073909	-3.222738	
47	-3.432760	-0.528437	2.282110	8	-2.952829	-0.204109	-2.363789	
47	-3.812075	0.772633	-0.361850	6	-1.867879	-0.857526	-4.360682	
8	-4.950557	-0.334688	0.928796	1	-2.820051	-1.015124	-4.888700	
47	-2.479119	1.189601	4.430939	1	-1.109447	-0.496851	-5.066938	
47	-0.540150	0.072190	2.396491	1	-1.557284	-1.831507	-3.953537	
8	-1.931176	-0.776352	3.743701	1	-0.660093	1.316111	-3.924141	
6	-1.140502	1.589983	-1.851978	1-OTS1’				
6	-0.655376	1.567173	-0.433324	47	-2.909352	2.263337	-0.323209	
1	-0.936419	0.608985	-2.304829	47	-2.520175	-0.364540	-1.839718	
8	-1.219297	1.964073	0.547584	8	-3.989727	0.649636	-0.829132	
8	0.578791	0.986781	-0.413019	47	-0.570203	3.596918	-1.610487	
8	1.069836	0.804370	0.887962	47	-0.650928	2.623586	1.259022	
1	1.452824	1.675052	1.125955	8	-1.818843	3.965016	0.170376	
1	-0.531506	2.332929	-2.398914	8	0.423101	0.969062	1.993547	
7	-2.561207	1.876705	-1.951457	8	0.403966	-0.058869	1.262044	
6	-2.954310	3.224414	-1.870302	6	0.067799	-1.208766	-3.457510	
8	-2.203651	4.058374	-1.407726	6	1.078945	-0.751350	-1.259029	
6	-4.313470	3.524439	-2.405265	6	0.403338	0.513275	-0.785259	
1	-4.197083	3.870186	-3.446043	1	0.543252	-1.624776	-0.855288	
1	-4.977561	2.648670	-2.405234	8	0.925785	1.618655	-0.856243	

1	-0.707211	0.417574	-0.607672	8	0.577003	1.104030	1.713594
6	0.291285	-1.310190	-4.926745	8	0.312190	0.070348	0.876287
1	0.026500	-2.328206	-5.249669	6	0.054207	-1.167091	-3.427601
1	-0.399803	-0.620095	-5.434343	6	0.960540	-0.931932	-1.162043
1	1.322317	-1.085037	-5.227413	6	0.438861	0.363923	-0.486396
1	2.115670	-0.767703	-0.895271	1	0.333383	-1.782558	-0.858475
7	1.104095	-0.813441	-2.707083	8	0.855964	1.479604	-0.857949
8	-1.039462	-1.508299	-2.969648	1	-0.864272	0.236405	-0.760108
1	1.971350	-0.574240	-3.181979	6	0.344111	-1.119669	-4.884545
1-OIM2'				1	0.129074	-2.110134	-5.313189
47	-2.904793	2.279263	-0.455579	1	-0.346271	-0.405131	-5.357495
47	-2.407826	-0.441349	-1.716096	1	1.380597	-0.837923	-5.108569
8	-3.887398	0.563566	-0.767504	1	1.974449	-1.082257	-0.761634
47	-0.487364	3.247830	-1.847486	7	1.041677	-0.837023	-2.586504
47	-0.549041	2.707586	1.038511	8	-1.072008	-1.528749	-3.024399
8	-1.739893	3.964343	-0.140371	1	1.909816	-0.491858	-2.991448
8	0.559674	1.032267	1.760398	1-OIM2			
8	0.305984	0.011374	0.918122	47	-3.197821	2.079520	0.169539
6	0.050244	-1.180971	-3.366028	47	-2.618790	-0.076747	-1.592705
6	1.056687	-0.867317	-1.151489	8	-4.189380	0.399713	-0.359786
6	0.390413	0.357404	-0.470838	47	-0.869457	3.278970	-1.058140
1	0.524733	-1.774290	-0.826973	47	-0.648666	2.607252	1.701889
8	0.860887	1.510941	-0.756811	8	-2.142341	3.757578	0.736478
1	-0.757677	0.231336	-0.758765	8	0.950385	1.263952	2.115307
6	0.245937	-1.094283	-4.837925	8	0.681197	0.069286	1.397410
1	0.075763	-2.091574	-5.270750	6	0.126434	-0.989252	-2.981705
1	-0.523065	-0.425656	-5.253903	6	0.348350	-1.176437	-0.525603
1	1.242109	-0.732672	-5.122469	6	0.682034	0.169654	0.076721
1	2.095244	-0.910761	-0.793706	1	-0.748840	-1.302973	-0.478412
7	1.057853	-0.774448	-2.581393	8	0.879774	1.182131	-0.563807
8	-1.013343	-1.638602	-2.896135	1	-2.064567	1.587952	-1.007182
1	1.876571	-0.372440	-3.033521	6	0.840664	-1.142125	-4.280919
1-OTS1				1	0.272697	-1.838154	-4.916097
47	-2.879500	2.252508	-0.324796	1	0.846289	-0.167367	-4.791442
47	-2.314130	-0.433517	-1.640914	1	1.871184	-1.502661	-4.169744
8	-3.739311	0.441203	-0.554615	1	0.772098	-1.975741	0.098282
47	-0.644754	3.507117	-1.808417	7	0.811730	-1.309624	-1.877370
47	-0.523724	2.826225	1.049147	8	-1.055273	-0.595498	-2.989893
8	-1.856204	4.048024	-0.060642	1	1.784650	-1.578453	-2.005908

1-OTS2				8	-2.305840	4.165815	-1.615172
47	-3.044082	2.093119	0.122448	6	-4.390368	3.426762	-2.539431
47	-2.571015	0.073566	-1.878270	1	-4.300887	3.478407	-3.637676
8	-4.197978	0.811922	-0.943371	1	-5.054473	2.585511	-2.293776
47	-1.437273	4.645317	-0.214775	1	-4.818892	4.372351	-2.184563
47	-0.526578	2.581852	1.723217	1	-2.996272	1.322953	-2.620058
8	-2.341942	3.578696	1.418098	1	-0.338803	2.326638	1.219819
8	1.314032	1.469538	1.696226	(Ag₂O)₂-O			
8	1.127356	0.216144	1.083851	47	-3.351204	1.216216	1.497668
6	0.166790	-1.150718	-3.028287	47	-3.719982	0.225910	-1.272269
6	0.265648	-1.216468	-0.547539	8	-4.827578	1.266732	0.131903
6	0.427542	0.178487	-0.014163	47	-0.820806	2.811485	0.687967
1	-0.816241	-1.442519	-0.555375	47	-1.205858	-0.217065	0.258202
8	-0.069012	1.177981	-0.555083	8	-1.748314	1.113185	2.827825
1	-1.557148	1.217502	-0.694040	8	-0.533158	1.059350	1.980262
6	0.935329	-1.406320	-4.279555	AcGly			
1	0.403923	-2.171231	-4.865500	6	-0.267741	-0.213586	-2.263171
1	0.942324	-0.484442	-4.880049	6	-0.982992	1.080722	-2.546572
1	1.966359	-1.735314	-4.098113	1	-1.361298	-1.970561	-2.731634
1	0.750531	-1.933699	0.126577	1	0.814013	-0.027042	-2.371118
7	0.816006	-1.355311	-1.873418	8	-1.916608	1.216774	-3.301179
8	-1.017218	-0.780694	-3.110534	7	-0.694457	-1.296543	-3.095425
1	1.794998	-1.626427	-1.935431	6	-0.376582	-1.321686	-4.411007
1-OIM3				8	0.352987	-0.467953	-4.913711
47	-3.441124	-0.626127	2.294190	6	-0.959286	-2.443152	-5.211268
47	-3.783138	0.923046	-0.239646	1	-1.469361	-3.198999	-4.598857
8	-4.980896	-0.053908	1.087055	1	-1.677959	-2.022424	-5.931902
47	-2.323109	0.477476	4.755938	1	-0.157532	-2.918791	-5.794910
47	-0.554229	-0.206946	2.430011	1	-0.430304	-0.462750	-1.203476
8	-1.909063	-1.287037	3.593402	8	-0.454066	2.077316	-1.839938
6	-1.126454	1.714694	-1.835950	1	-0.949325	2.894226	-2.034587
6	-0.585421	1.718376	-0.455393	1-OIM4			
1	-0.869176	0.749730	-2.291758	47	-4.233922	1.853733	1.076164
8	-0.913167	2.571357	0.421726	47	-3.388974	0.183504	-1.132828
8	0.278126	0.815295	-0.165239	8	-5.129489	1.093469	-0.577374
8	0.755892	0.971109	1.161669	47	-1.040940	1.695678	0.707105
1	-0.578108	2.503530	-2.385190	47	-2.682021	-0.486478	1.683446
7	-2.566240	1.921939	-1.907656	8	-3.066161	2.361906	2.735322
6	-3.021120	3.257638	-1.977187	8	-1.915022	1.441910	2.666633

6	-1.233403	-0.266293	-3.116514	8	-4.648851	-0.011173	0.723813				
6	1.083687	-0.289452	-2.423286	47	-0.808006	2.123307	0.292808				
6	0.966745	0.639253	-1.264998	47	-0.865175	1.401954	3.203414				
1	1.094240	-1.312288	-2.002284	8	-1.945286	2.808442	1.975380				
8	0.141841	1.534412	-1.193732	6	-1.803547	-0.277334	-3.771729				
1	1.685925	0.450172	-0.437220	6	-0.519923	-1.408213	-2.024700				
6	-2.229814	0.104167	-4.157654	6	-0.219554	-0.370430	-0.949807				
1	-3.033234	-0.647072	-4.175413	1	-1.429987	-1.942677	-1.701617				
1	-2.684344	1.067418	-3.869615	8	-0.076608	0.837707	-1.323961				
1	-1.785937	0.208428	-5.156736	6	-1.797167	0.276183	-5.156166				
1	2.080954	-0.154377	-2.871660	1	-2.691617	-0.079899	-5.687716				
7	0.062037	-0.121939	-3.416859	1	-1.871809	1.372905	-5.091962				
8	-1.572276	-0.682960	-1.987392	1	-0.897108	0.008166	-5.724449				
1	0.313961	0.227100	-4.338386	1	0.289671	-2.152529	-2.027084				
1-OTS3											
47	-2.934267	2.318178	-0.349794	8	-2.830347	-0.151397	-3.073553				
47	-2.406615	-0.658115	-1.303766	1	0.102465	-0.892918	-3.984261				
8	-3.708492	0.426520	-0.319003	8	-0.177161	-0.790333	0.216318				
47	-0.523594	3.158445	-1.833491	1	-2.648115	1.191894	-0.180237				
47	-0.460841	2.855621	1.021672	1-OTS4							
8	-1.786320	4.050674	-0.268555	47	-2.968791	2.554373	-0.578462				
8	0.239405	0.735335	0.822364	47	-2.313854	0.304680	-2.265374				
6	0.012943	-1.960202	-2.800209	8	-3.545392	1.943685	-2.403545				
6	0.844103	-1.123212	-0.639383	47	-0.929366	4.490050	0.619361				
6	0.402324	0.360501	-0.516327	47	-1.368484	1.687476	1.682844				
1	0.153092	-1.767258	-0.077511	8	-2.622600	3.352984	1.312703				
8	0.687808	1.148809	-1.446352	8	-0.111713	-0.045973	1.242395				
1	-0.908909	0.109855	-0.601057	6	0.088362	-1.406375	-2.661548				
6	0.383390	-2.401968	-4.171514	6	1.034986	-1.212375	-0.442252				
1	-0.053619	-3.395302	-4.350886	6	0.259688	0.004989	0.038552				
1	-0.073456	-1.710576	-4.896146	1	0.539742	-2.101834	-0.019742				
1	1.468185	-2.439124	-4.333155	8	0.040756	0.952245	-0.757955				
1	1.824982	-1.167238	-0.142204	1	-1.575119	1.507572	-0.746952				
7	1.003399	-1.575290	-1.989057	6	0.301356	-1.391494	-4.134701				
8	-1.188094	-1.984177	-2.452920	1	-0.187620	-2.273301	-4.574966				
1	1.933020	-1.513006	-2.399409	1	-0.199030	-0.501076	-4.548073				
1-OIM5											
47	-3.354729	1.410599	1.352819	1	1.361817	-1.375825	-4.416959				
47	-3.621929	-0.118849	-1.055082	7	1.158899	-1.317344	-1.871715				

8	-1.061256	-1.501746	-2.170974	1	-2.739146	-0.301964	-5.753378
1	2.075398	-1.224673	-2.302670	1	-2.319822	1.411954	-5.523519
1-OIM6							
47	-3.395380	2.116426	1.111699	1	0.310473	-1.814251	-2.257962
47	-3.552839	0.800290	-1.475864	7	-0.853167	-0.701485	-3.526550
8	-4.563747	2.325934	-0.550080	8	-2.649988	0.634963	-3.099029
47	-0.941412	0.669936	1.528963	1	-0.294498	-1.104141	-4.274967
47	-3.325609	0.166112	3.306001	6	-1.666070	-2.266847	-1.686940
8	-2.127044	1.873109	2.792616	6	-2.036615	-3.289673	-2.759971
6	-1.780455	-0.640104	-3.473803	1	-1.163466	-2.798106	-0.859960
6	0.316286	-1.069688	-2.374594	6	-2.564429	-4.577592	-2.137912
6	0.022679	-0.109649	-1.254932	6	-3.040941	-5.574867	-3.177586
1	0.146012	-2.084451	-1.982335	1	-3.241400	-6.538693	-2.670109
8	-0.206757	1.121449	-1.643512	1	-2.225399	-5.747159	-3.907319
6	-2.524297	-0.245047	-4.697688	8	-2.831243	-1.685743	-1.155484
1	-3.449359	-0.835452	-4.765753	1	-3.442146	-1.569137	-1.905566
1	-2.813957	0.813865	-4.594783	8	-4.205180	-5.073066	-3.802963
1	-1.931002	-0.363989	-5.613900	1	-4.368193	-5.576557	-4.612482
1	1.386446	-0.986646	-2.617032	1	-1.117171	-3.557736	-3.326693
7	-0.456267	-0.803892	-3.559177	1	-3.422177	-4.314327	-1.481911
8	-2.342270	-0.792845	-2.367573	8	-2.996647	-2.685825	-3.598150
1	0.011123	-0.683905	-4.454405	1	-3.607797	-3.382890	-3.911368
8	0.042389	-0.471999	-0.085151	8	-1.501538	-5.140359	-1.405729
1	-0.441310	1.691188	-0.881774	1	-1.849238	-5.878363	-0.885911
2-OIM1				2-OTS1			
47	-3.156964	2.865125	1.094296	47	-2.511546	2.388541	0.077890
47	-3.545930	1.089049	-1.119210	47	-2.465681	-0.129242	-1.547738
8	-4.715980	1.689488	0.489570	8	-3.626472	0.714691	-0.152515
47	-0.550069	2.527313	0.071626	47	-0.347638	3.293717	-1.659461
47	-1.038089	2.322905	3.015744	47	0.073778	2.450050	1.116584
8	-1.333542	3.866159	1.536545	8	-1.165494	3.968711	0.280810
8	-2.170614	-0.631284	1.770315	8	0.972042	0.527876	1.512305
8	-2.180246	-0.099593	2.839223	8	0.495037	-0.394733	0.632074
6	-1.848045	0.125768	-3.892402	6	-0.382765	-0.767188	-3.755847
6	-0.639364	-1.244229	-2.205913	6	0.780393	-1.248493	-1.592857
6	-0.345095	-0.206740	-1.173316	6	0.497783	0.000252	-0.698156
8	-0.084457	0.954307	-1.434106	8	0.994271	1.092843	-1.033606
1	-0.341212	-0.579087	-0.123585	1	-0.871591	0.094504	-0.799772
6	-1.971692	0.383947	-5.357685	6	-0.167746	-0.388699	-5.179721

1	-0.747404	-1.070613	-5.818320	1	0.306143	-1.005049	-5.344456
1	-0.573191	0.624178	-5.330840	1	1.238894	0.385164	-4.767903
1	0.888348	-0.404415	-5.477589	1	1.859888	-1.273637	-4.485815
1	1.854758	-1.416545	-1.408760	1	0.724152	-2.291781	-0.439050
7	0.709669	-0.890179	-2.990187	7	0.679831	-1.348843	-2.239814
8	-1.540661	-0.958821	-3.332822	8	-0.904819	-0.027999	-3.215773
1	1.593849	-0.638433	-3.426659	1	1.579728	-1.792988	-2.402053
6	0.084713	-2.571226	-1.223740	6	-1.337553	-1.881001	-0.817178
6	0.954637	-3.388373	-0.259760	6	-1.530245	-3.049018	0.152352
1	0.067222	-3.166495	-2.163666	1	-1.631500	-2.262975	-1.818110
6	0.289976	-4.706617	0.121634	6	-2.987007	-3.487288	0.244512
1	1.119402	-2.808094	0.671213	1	-1.198175	-2.730440	1.162653
6	1.205353	-5.631127	0.886378	6	-3.173418	-4.710036	1.110478
1	-0.026620	-5.224136	-0.811332	1	-3.341059	-3.726523	-0.783038
1	2.084181	-5.887493	0.266422	1	-2.620552	-5.565727	0.680324
1	1.568909	-5.103673	1.792017	1	-2.752345	-4.501431	2.114790
8	-1.216388	-2.379274	-0.735548	8	-2.111750	-0.764966	-0.452071
1	-1.416641	-3.088925	-0.090591	1	-2.946706	-1.084153	-0.050929
8	2.168184	-3.634973	-0.932764	8	-0.745368	-4.111556	-0.338271
1	2.882669	-3.685852	-0.283580	1	-0.437626	-4.644894	0.406837
8	-0.840010	-4.398935	0.920861	8	-3.739215	-2.416439	0.786918
1	-1.233927	-5.239640	1.201893	1	-4.634244	-2.753448	0.952425
8	0.442325	-6.769323	1.215144	8	-4.560402	-4.953840	1.168987
1	0.939106	-7.300432	1.850511	1	-4.735912	-5.561487	1.898933
2-OIM2				2-OTS2			
47	-2.977625	3.086582	-0.151480	47	-2.889131	2.510987	0.710830
47	-2.435482	1.153934	-2.176934	47	-2.836980	0.745534	-1.525800
8	-4.055209	2.349363	-1.677399	8	-4.295657	1.460062	-0.334343
47	-0.399934	4.678165	0.213871	47	-1.276210	4.993509	0.346223
47	-0.792297	2.167907	1.729117	47	-0.084869	2.660334	1.784677
8	-1.984862	3.880590	1.467043	8	-1.835919	3.766153	2.023121
8	0.523923	0.550214	2.110374	8	1.669500	1.524514	1.333668
8	0.320329	-0.527422	1.214300	8	1.351578	0.276445	0.772835
6	0.170311	-0.645449	-3.261522	6	-0.603082	-0.928612	-3.029641
6	0.148655	-1.474633	-0.900110	6	0.189069	-1.185009	-0.573566
6	0.427604	-0.229878	-0.072080	6	0.446064	0.249200	-0.170637
8	0.703917	0.859608	-0.522985	8	-0.109328	1.263074	-0.606402
1	-1.754058	2.174512	-0.840389	1	-1.576180	1.491525	-0.458217
6	0.956759	-0.651912	-4.530574	6	-0.391692	-1.602750	-4.345718

1	-1.250571	-2.277878	-4.504037	8	-2.005014	4.201280	-1.800164
1	-0.412493	-0.850536	-5.145956	6	-4.269961	3.619055	-2.299344
1	0.535032	-2.188286	-4.399751	1	-4.754392	2.801095	-2.851866
1	1.105251	-1.720553	-0.285795	1	-4.812016	3.755876	-1.348880
7	0.126285	-1.414176	-2.014251	1	-4.339452	4.558512	-2.863695
8	-1.445617	-0.017604	-2.963852	1	-3.011849	1.391728	-2.579381
1	0.711675	-2.202275	-2.282275	1	-0.455780	2.386794	1.202414
6	-0.896208	-1.789383	0.366758	6	-0.801745	0.254097	-2.509834
6	-1.504388	-3.086228	-0.163108	6	-1.458330	0.124186	-3.889047
1	-0.317076	-2.054390	1.272451	1	-1.249644	-0.542843	-1.873151
6	-2.611986	-2.843196	-1.193032	6	-0.870119	-1.037247	-4.683262
1	-2.006064	-3.578122	0.695234	1	-1.271210	1.051671	-4.471872
6	-2.924044	-4.047060	-2.040152	6	-1.684100	-1.400296	-5.902174
1	-2.341785	-2.025071	-1.886199	1	-0.808117	-1.931211	-4.024468
1	-2.002009	-4.363221	-2.564599	1	-2.684858	-1.758330	-5.596645
1	-3.249778	-4.883903	-1.388214	1	-1.820831	-0.492564	-6.524834
8	-1.870774	-0.851770	0.745812	8	0.591912	0.115390	-2.558918
1	-2.752157	-1.157648	0.450048	1	0.858163	-0.131340	-3.467584
8	-0.443577	-3.876645	-0.638583	8	-2.843131	-0.062723	-3.669399
1	-0.700698	-4.807461	-0.590415	1	-3.330916	0.173178	-4.473242
8	-3.745984	-2.432585	-0.439773	8	0.425481	-0.632527	-5.089238
1	-4.434207	-2.162024	-1.066570	1	0.783314	-1.339609	-5.649683
8	-3.932799	-3.657178	-2.943116	8	-0.955966	-2.395646	-6.582721
1	-4.207022	-4.431786	-3.450926	1	-1.322950	-2.493860	-7.470849
2-OIM3				2-OIM4			
47	-3.580580	-0.650297	2.215517	47	-3.677558	1.743185	1.534059
47	-3.789165	0.930870	-0.302132	47	-3.424251	0.458389	-1.053202
8	-5.057244	-0.087672	0.927511	8	-4.868873	1.534745	-0.096551
47	-2.596495	0.460915	4.750141	47	-0.677837	1.345986	0.620455
47	-0.726855	-0.147370	2.508816	47	-2.417608	-0.842283	1.420026
8	-2.105644	-1.283531	3.590321	8	-2.261436	1.710317	3.071419
6	-1.093689	1.617243	-1.855147	8	-1.261818	0.722358	2.617536
6	-0.585925	1.686811	-0.446446	6	-1.532519	-0.123202	-3.297990
8	-0.977955	2.587423	0.353793	6	0.851680	-0.479316	-2.807629
8	0.260386	0.818073	-0.031754	6	0.990981	0.488796	-1.670964
8	0.620993	1.064680	1.319910	8	0.229900	1.418640	-1.468952
1	-0.503269	2.379476	-2.406974	1	1.864746	0.302650	-1.006487
7	-2.509907	1.974897	-1.884816	6	-2.517299	0.475295	-4.240176
6	-2.838127	3.340874	-1.987304	1	-3.420278	-0.152227	-4.268128

1	-2.812434	1.459877	-3.839148	1	1.737803	-2.101237	-4.693296
1	-2.118545	0.611120	-5.254051	1	1.655399	-1.745419	-0.433861
1	1.766844	-0.362582	-3.414129	7	0.923559	-1.756226	-2.312880
7	-0.251728	-0.164413	-3.685090	8	-1.166480	-1.605751	-3.234773
8	-1.873839	-0.564556	-2.181871	1	1.908094	-1.795690	-2.566979
1	-0.025534	0.214889	-4.601225	6	-0.247674	-2.702645	-0.285846
6	0.883043	-1.913161	-2.231596	6	0.301136	-3.106962	1.089835
6	2.300158	-2.484872	-2.305932	1	-0.120878	-3.602408	-0.920778
1	0.255234	-2.543144	-2.898065	6	-0.759222	-3.743786	1.976873
6	2.388930	-3.881059	-1.700450	1	0.648513	-2.202758	1.628235
1	2.982625	-1.821707	-1.730674	6	-0.177884	-4.398153	3.204616
6	3.725609	-4.542494	-1.935924	1	-1.320839	-4.511943	1.401529
1	1.598505	-4.514186	-2.162086	1	0.485855	-5.230302	2.903547
1	3.893242	-4.682632	-3.019912	1	0.438835	-3.652867	3.748085
1	4.525389	-3.878863	-1.549420	8	-1.612895	-2.378771	-0.284183
8	0.382177	-1.906394	-0.914998	1	-1.885072	-2.160734	0.629242
1	0.826839	-2.618525	-0.411749	8	1.381276	-3.975390	0.832553
8	2.646041	-2.519842	-3.670395	1	2.016642	-3.903087	1.557665
1	3.605053	-2.428367	-3.754606	8	-1.624006	-2.685794	2.362328
8	2.171674	-3.760107	-0.305942	1	-2.279308	-3.055969	2.973774
1	2.347866	-4.631387	0.084303	8	-1.263428	-4.844828	3.983866
8	3.689620	-5.770340	-1.244625	1	-0.931763	-5.097947	4.854875
1	4.593515	-6.094102	-1.140286	2-OIM5			
2-OTS3				47	-3.424243	1.546538	1.396813
47	-2.597419	2.447598	-0.464010	47	-3.819916	0.671178	-1.283531
47	-2.380052	-0.315933	-2.021488	8	-5.074192	1.232289	0.283008
8	-3.674573	0.836119	-1.087011	47	-0.665856	1.347975	0.683019
47	0.179623	3.009684	-1.250927	47	-1.650194	-0.312003	3.018089
47	-0.409875	2.104474	1.416413	8	-1.680390	1.793881	2.509153
8	-1.207232	3.799594	0.269201	6	-1.821100	0.112052	-3.927259
8	0.006819	-0.022696	0.819581	6	-0.696657	-1.522248	-2.392228
6	0.070215	-1.741443	-3.344442	6	-0.216606	-0.712819	-1.183451
6	0.662995	-1.624386	-0.901638	8	-0.169721	0.550922	-1.302737
6	0.321621	-0.130937	-0.477876	6	-1.677517	0.826792	-5.231957
8	0.907853	0.759935	-1.151192	1	-2.581210	0.647159	-5.833352
1	-0.939831	-0.231634	-0.985399	1	-1.631849	1.908186	-5.031159
6	0.655860	-1.917625	-4.703159	1	-0.790221	0.526334	-5.804156
1	0.143052	-2.756374	-5.196831	1	0.103304	-2.246009	-2.615385
1	0.440602	-1.013888	-5.293547	7	-0.850136	-0.753609	-3.612391

8	-2.824187	0.327991	-3.225847	7	1.092352	-1.209517	-2.591371
1	-0.075965	-0.809123	-4.268764	8	-1.153318	-1.429166	-2.906904
8	0.064409	-1.352292	-0.157422	1	1.968626	-1.021044	-3.070746
1	-2.560810	1.190428	-0.036851	6	0.432428	-2.641003	-0.618047
6	-1.932006	-2.359478	-1.994331	6	1.313978	-3.386230	0.386541
6	-1.488301	-3.735993	-1.488585	1	0.300461	-3.340043	-1.470968
1	-2.505361	-2.556872	-2.923067	6	0.560738	-4.485763	1.124064
6	-2.581078	-4.457863	-0.711146	1	1.679169	-2.670326	1.151061
1	-0.639333	-3.606336	-0.788791	6	1.471740	-5.384179	1.923728
6	-2.262611	-5.911570	-0.467163	1	0.011147	-5.109507	0.384319
1	-3.541261	-4.396858	-1.269250	1	2.167666	-5.912101	1.245657
1	-2.193269	-6.444944	-1.433585	1	2.076095	-4.757069	2.610815
1	-1.273177	-5.981050	0.030121	8	-0.821247	-2.280019	-0.087653
8	-2.769993	-1.683361	-1.085400	1	-0.959676	-2.750416	0.759893
1	-2.818974	-2.187066	-0.247946	8	2.382996	-3.920611	-0.359940
8	-1.090988	-4.459466	-2.630903	1	3.159998	-3.983371	0.211534
1	-0.418856	-5.104379	-2.371151	8	-0.351875	-3.842016	1.998911
8	-2.693457	-3.781168	0.533453	1	-0.780747	-4.533448	2.527510
1	-3.350492	-4.257776	1.064672	8	0.642335	-6.278554	2.629141
8	-3.292303	-6.424448	0.346260	1	1.170785	-6.718575	3.307439
1	-3.018883	-7.288648	0.679784	2-OIM6			
2-OTS4				47	-3.841703	2.457935	0.933161
47	-2.798031	1.348945	0.853737	47	-3.638723	1.092332	-1.563817
47	-2.446801	-0.470055	-1.377644	8	-4.869285	2.570353	-0.836578
8	-4.043765	0.418690	-0.416172	47	-1.428842	0.988287	1.469307
47	-1.043034	3.841188	1.003453	47	-3.864908	0.538941	3.162498
47	-0.107974	1.179430	2.042804	8	-2.645648	2.237583	2.667129
8	-1.820660	2.384270	2.380485	6	-1.687148	-0.637812	-3.225296
8	1.147718	-0.184828	0.861007	6	0.429941	-1.090562	-2.093961
6	-0.009664	-1.223736	-3.351403	6	0.026797	-0.048809	-1.057499
6	1.182861	-1.399022	-1.157855	8	0.124622	1.169515	-1.543784
6	0.755102	-0.189209	-0.333509	6	-2.430779	-0.494626	-4.503596
8	0.012189	0.681179	-0.864745	1	-3.380286	-1.044696	-4.429819
1	-1.473012	0.786671	-0.204265	1	-2.676570	0.571549	-4.638149
6	0.185791	-1.006848	-4.815774	1	-1.858341	-0.842215	-5.373312
1	-0.258961	-1.854707	-5.357978	1	1.473442	-0.838706	-2.363164
1	-0.372957	-0.105538	-5.110928	7	-0.378668	-0.902522	-3.282271
1	1.237913	-0.895388	-5.108172	8	-2.235942	-0.478254	-2.115175
1	2.251870	-1.563071	-0.956209	1	0.021619	-1.237597	-4.155916

8	-0.292815	-0.299694	0.093060	1	-2.831878	-0.109838	-1.297241	
1	-0.149243	1.830598	-0.877518	8	-1.771863	1.340123	-3.003538	
6	0.421474	-2.527329	-1.570072	7	-0.574390	-1.177597	-3.043286	
6	1.069599	-3.519718	-2.551261	6	-0.414520	-1.109204	-4.383561	
1	-0.637279	-2.820160	-1.386286	8	0.246647	-0.213830	-4.909825	
6	0.746872	-4.960271	-2.163905	6	-1.096463	-2.173510	-5.183387	
1	2.163499	-3.353651	-2.455355	1	-1.479659	-2.999021	-4.568509	
6	1.554469	-5.965669	-2.949547	1	-1.937810	-1.715791	-5.727457	
1	-0.332086	-5.122402	-2.383459	1	-0.396063	-2.562605	-5.936340	
1	1.342459	-5.861324	-4.030696	1	-2.741053	1.756379	0.182117	
1	2.631489	-5.756762	-2.791511	8	0.049243	2.197646	-2.034005	
8	1.178474	-2.539701	-0.383881	1	-0.425506	3.031695	-2.208947	
1	1.260623	-3.475983	-0.125688	2-IM1				
8	0.651806	-3.299365	-3.879933	6	-3.734812	-0.793983	0.630604	
1	1.352504	-3.595989	-4.476082	6	-2.687901	-0.186291	-0.269201	
8	0.994387	-5.144444	-0.783955	6	-1.326929	-0.853853	-0.115966	
1	1.018509	-6.102339	-0.628257	6	-0.164680	-0.052442	-0.711796	
8	1.199111	-7.240129	-2.462816	6	-0.263292	0.345808	-2.204636	
1	1.870190	-7.875774	-2.743137	6	-1.060728	1.611629	-2.448203	
NAGA				8	-2.525238	1.183973	0.049393	
6	-3.664995	-0.473246	0.631339	8	-4.912863	-0.046844	0.437250	
6	-2.486869	-0.120895	-0.241364	8	-1.302756	-2.127615	-0.714000	
6	-1.341530	-1.116361	-0.119693	1	-5.516267	-0.225185	1.170288	
6	-0.015625	-0.628255	-0.716321	1	-1.069861	-1.576630	-2.593041	
6	-0.036714	-0.154212	-2.188553	1	-3.872805	-1.864412	0.380470	
6	-0.708653	1.186853	-2.448335	1	-1.096931	-0.923152	0.968306	
8	-1.985331	1.151501	0.121051	1	0.761772	0.663723	-2.481504	
8	-4.643211	0.516983	0.414546	1	-3.381127	-0.733772	1.678736	
8	-1.666507	-2.342109	-0.740063	8	0.091808	1.092329	0.089573	
1	-5.317026	0.440620	1.102445	1	0.713918	-0.715649	-0.645445	
1	-1.177034	-1.886402	-2.623505	1	-1.902521	-2.721265	-0.240924	
1	-4.037940	-1.484423	0.373403	1	-0.772616	1.363857	0.474695	
1	-1.127307	-1.268406	0.959206	1	-3.026899	-0.293109	-1.321699	
1	1.025278	0.017553	-2.443840	8	-0.632595	2.703109	-2.078376	
1	-3.331259	-0.496022	1.687943	7	-0.640690	-0.760245	-3.031972	
8	0.595239	0.321476	0.115192	6	-0.440863	-0.695527	-4.371262	
1	0.635409	-1.521338	-0.724840	8	0.057154	0.301007	-4.891497	
1	-2.401282	-2.758580	-0.268824	6	-0.881256	-1.883005	-5.163830	
1	-0.081421	0.991079	0.317664	1	-1.129555	-2.753267	-4.541608	

1	-1.769542	-1.599968	-5.750463	1	-0.302379	-2.415404	-5.755172	
1	-0.090458	-2.148511	-5.879990	1	-3.227397	1.822438	-0.180690	
1	-3.406126	1.544908	0.243877	12	0.906617	2.944821	-0.516250	
12	0.809372	2.955182	-0.613914	8	2.658237	3.001602	-1.528694	
8	2.651421	2.553537	-1.361588	1	3.502585	2.946506	-1.055495	
1	3.354876	2.346911	-0.726887	8	-0.117850	2.823919	1.169559	
8	0.483309	4.100441	0.827081	1	-1.063466	2.995484	1.084170	
1	0.715950	5.031289	0.765615	1	2.740309	2.384024	-2.272708	
1	2.745743	1.899939	-2.071765	8	-1.979156	1.524507	-3.145642	
8	-2.182572	1.477554	-3.093747	1	-2.347261	2.422010	-3.268440	
1	-2.598684	2.353634	-3.222201	2-IM2				
2-TS1				6	-3.295073	-0.268014	0.837780	
6	-3.668700	-0.448944	0.611500	6	-2.157128	0.189488	-0.045659	
6	-2.564452	0.016768	-0.307063	6	-1.132729	-0.909123	-0.306569	
6	-1.250991	-0.709184	-0.049968	6	0.112186	-0.495731	-1.117634	
6	-0.004887	-0.122338	-0.729419	6	-0.180521	-0.023555	-2.578235	
6	-0.155874	0.281453	-2.216611	6	-0.908319	1.296718	-2.687648	
6	-0.877929	1.592286	-2.450337	8	-1.535100	1.299152	0.596049	
8	-2.355263	1.399667	-0.137899	8	-4.093613	0.868744	1.076545	
8	-4.824242	0.273947	0.256889	8	-1.771265	-1.981986	-0.972176	
8	-1.345277	-2.047630	-0.497021	1	-4.635484	0.711468	1.860821	
1	-5.489808	0.148072	0.945546	1	-1.373942	-1.724609	-2.922754	
1	-1.132179	-1.575408	-2.512439	1	-3.861099	-1.072597	0.333736	
1	-3.823310	-1.541225	0.505480	1	-0.737211	-1.238249	0.676302	
1	-1.035751	-0.672764	1.039425	1	0.822034	0.217690	-2.983773	
1	0.875451	0.520237	-2.546339	1	-2.876180	-0.677304	1.778084	
1	-3.365258	-0.250794	1.658907	8	0.884286	0.408258	-0.444682	
8	0.596114	0.902629	-0.000648	1	0.641176	-1.464692	-1.286243	
1	0.692606	-0.981881	-0.766538	1	-2.228437	-2.543912	-0.332415	
1	-2.057656	-2.496696	-0.021071	1	-2.596098	0.517230	-1.014303	
1	0.026882	1.541116	0.695317	8	-0.628681	2.281660	-2.007783	
1	-2.885336	-0.199463	-1.349570	7	-0.755669	-1.061324	-3.388883	
8	-0.410984	2.664270	-2.068898	6	-0.505693	-1.160257	-4.714225	
7	-0.656055	-0.813342	-2.997683	8	0.230696	-0.368518	-5.301808	
6	-0.484642	-0.840173	-4.341141	6	-1.191892	-2.284129	-5.425457	
8	0.092290	0.071502	-4.931167	1	-1.661750	-3.007709	-4.745643	
6	-1.054001	-2.024033	-5.054505	1	-1.966519	-1.860359	-6.084030	
1	-1.384112	-2.822901	-4.377121	1	-0.464131	-2.797455	-6.070588	
1	-1.913825	-1.688213	-5.655447	1	-2.256885	1.843110	0.963077	

12	0.238919	2.199739	-0.105841	8	2.038476	3.151136	0.150257	
8	2.063109	3.122734	-0.368643	1	2.169649	3.868925	0.787633	
1	2.298228	3.929418	0.113189	8	-0.663058	4.115655	0.451105	
8	-0.412405	3.940236	0.776406	1	-0.232999	4.934535	0.161297	
1	-0.001628	4.780874	0.523949	1	2.780414	2.543349	0.288369	
1	2.864592	2.578982	-0.372032	1	-1.609744	4.255854	0.297528	
1	-1.364075	4.117810	0.816892	8	-1.909877	1.402130	-3.126412	
8	-1.844230	1.340533	-3.603444	1	-2.220732	2.276502	-2.834699	
1	-2.232283	2.237388	-3.625468	2-IM3				
2-TS2				6	-0.870808	-0.049275	-2.466990	
6	-3.229732	-0.327012	0.797825	6	0.147802	0.716149	-1.971955	
6	-2.052201	0.096841	-0.043714	1	-1.707860	-0.473016	-4.326355	
6	-0.977140	-0.981046	-0.115864	1	-1.801748	-0.151630	-1.905717	
6	0.379299	-0.558605	-0.628200	8	1.279487	0.971277	-2.533262	
6	-0.031853	0.013492	-2.894983	7	-0.867359	-0.616673	-3.767400	
6	-0.633677	1.264590	-2.719878	6	0.065487	-1.372658	-4.338229	
8	-1.526719	1.302486	0.514396	8	1.147560	-1.674951	-3.766741	
8	-4.118543	0.765623	0.815674	6	-0.192924	-1.872547	-5.716235	
8	-1.425959	-2.056645	-0.901250	1	-1.203079	-1.642087	-6.079285	
1	-4.711089	0.672508	1.573167	1	0.547301	-1.429234	-6.400746	
1	-1.151474	-1.755588	-3.006514	1	-0.032162	-2.961037	-5.730695	
1	-3.686550	-1.234680	0.360553	12	2.451826	-0.586172	-2.760108	
1	-0.753702	-1.316958	0.922774	8	2.566152	-1.490126	-0.939388	
1	1.063579	0.019632	-2.941517	1	3.200710	-1.141014	-0.294671	
1	-2.873668	-0.579224	1.815626	8	4.245450	-0.053290	-3.511916	
8	0.976049	0.449179	-0.200226	1	4.729657	-0.660309	-4.092690	
1	0.947249	-1.407791	-1.060317	1	4.338851	0.822109	-3.918717	
1	-1.911236	-2.683796	-0.348215	1	1.720396	-1.528521	-0.464210	
1	-2.407068	0.295611	-1.073675	8	-0.046462	1.237225	-0.726612	
8	-0.084099	2.242812	-2.130039	1	0.753640	1.740342	-0.507199	
7	-0.722166	-1.025101	-3.574620	2-TS3'				
6	-0.879520	-1.061550	-4.917502	6	-0.473459	-0.529319	-2.220902	
8	-0.419674	-0.194815	-5.662603	6	0.352246	0.583567	-1.812734	
6	-1.641535	-2.234193	-5.455803	1	-1.618638	-0.558351	-3.982240	
1	-2.045684	-2.892044	-4.674285	1	-1.435516	-0.566131	-1.699852	
1	-2.465289	-1.864340	-6.084810	8	1.473869	0.820817	-2.306528	
1	-0.975982	-2.818323	-6.110332	7	-0.673452	-0.725804	-3.642564	
1	-2.299288	1.837339	0.778862	6	0.203200	-1.114815	-4.565310	
12	0.179644	2.330821	-0.121127	8	1.417001	-1.325821	-4.325281	

6	-0.299664	-1.295917	-5.955385	2-IM4				
1	-1.380412	-1.132051	-6.054085	6	-0.858963	-0.188103	-2.482154	
1	0.238990	-0.602801	-6.619480	6	0.103549	0.892659	-2.063061	
1	-0.049241	-2.316072	-6.283890	1	-1.454585	-0.189342	-4.514821	
12	2.554600	-0.921109	-2.739183	1	-1.888042	0.127768	-2.277986	
8	1.496542	-2.115037	-1.564887	8	1.320241	0.774864	-2.160389	
1	1.645778	-2.114282	-0.610191	7	-0.742416	-0.541504	-3.878403	
8	4.374765	-0.429758	-3.465057	6	0.195096	-1.355985	-4.370925	
1	4.430163	0.235932	-4.168263	8	1.114000	-1.808693	-3.655951	
1	5.082406	-0.203406	-2.841969	6	0.112536	-1.720338	-5.808348	
1	0.415732	-1.479375	-1.758220	1	-0.772738	-1.311797	-6.311581	
8	-0.061439	1.240142	-0.742339	1	1.023080	-1.360401	-6.311161	
1	0.656331	1.824742	-0.433573	2-	1	0.112163	-2.817689	-5.887432
TS3				12	2.426304	-0.970596	-2.381143	
6	-1.140560	-0.523239	-2.442693	8	2.685464	-1.644100	-0.653331	
6	-0.354050	0.587592	-1.960672	1	3.182374	-2.454233	-0.507931	
1	-1.789583	-0.703116	-4.433958	8	3.923649	-0.172312	-3.502055	
1	-2.201513	-0.452252	-2.181879	1	4.583900	-0.757964	-3.902866	
8	0.859993	0.722937	-2.207596	1	3.688662	0.460702	-4.197843	
7	-0.986976	-0.885484	-3.835290	1	-0.637712	-1.067249	-1.851043	
6	0.069214	-1.432094	-4.437384	8	-0.464699	1.956194	-1.567961	
8	1.151528	-1.674236	-3.856796	1	0.217348	2.597243	-1.281830	
6	-0.063333	-1.751693	-5.887869	AcGly				
1	0.678161	-1.161309	-6.447808	6	-0.267741	-0.213586	-2.263171	
1	0.192597	-2.811891	-6.034803	6	-0.982992	1.080722	-2.546572	
1	-1.065060	-1.556308	-6.292485	1	-1.361298	-1.970561	-2.731634	
12	1.925119	-1.100612	-2.052048	1	0.814013	-0.027042	-2.371118	
8	2.903808	-0.540916	-0.307053	8	-1.916608	1.216774	-3.301179	
1	3.541344	0.187091	-0.368689	7	-0.694457	-1.296543	-3.095425	
8	3.752211	-0.954215	-2.974900	6	-0.376582	-1.321686	-4.411007	
1	4.579688	-0.984781	-2.472410	8	0.352987	-0.467953	-4.913711	
1	3.921792	-1.449602	-3.789883	6	-0.959286	-2.443152	-5.211268	
1	-0.480401	-1.436135	-1.671736	1	-1.469361	-3.198999	-4.598857	
8	0.458445	-2.066189	-1.069782	1	-1.677959	-2.022424	-5.931902	
1	2.329879	-0.307015	0.438027	1	-0.157532	-2.918791	-5.794910	
1	0.340405	-2.987887	-1.333731	1	-0.430304	-0.462750	-1.203476	
8	-0.950595	1.364646	-1.068786	8	-0.454066	2.077316	-1.839938	
1	-0.280409	1.941296	-0.655865	1	-0.949325	2.894226	-2.034587	

Reference

- [1] Y. Ohmi, S. Nishimura, K. Ebitani, ChemSusChem 6 (2013) 2259-2262.
- [2] M. Cossi, G. Scalmani, N. Rega, V. Barone, The Journal of Chemical Physics 117 (2002) 43-54.
- [3] A.V. Marenich, C.J. Cramer, D.G. Truhlar, The Journal of Physical Chemistry B 113 (2009) 6378-6396.
- [4] E. Cancès, B. Mennucci, J. Tomasi, The Journal of chemical physics 107 (1997) 3032-3041.
- [5] B. Mennucci, E. Cancès, J. Tomasi, The Journal of Physical Chemistry B 101 (1997) 10506-10517.
- [6] E. Cancès, B. Mennucci, Journal of mathematical chemistry 23 (1998) 309-326.
- [7] G. Scalmani, M.J. Frisch, The Journal of chemical physics 132 (2010) 114110–114124.
- [8] Y. Zhao, D.G. Truhlar, Theoretical chemistry accounts 120 (2008) 215-241.
- [9] Y. Zhao, D.G. Truhlar, Acc. Chem. Res. 41 (2008) 157-167.
- [10]S. Grimme, J. Antony, S. Ehrlich, H. Krieg, The Journal of chemical physics 132 (2010) 154104.
- [11]S. Grimme, S. Ehrlich, L. Goerigk, Journal of computational chemistry 32 (2011) 1456-1465.
- [12]F. Weigend, R. Ahlrichs, Physical Chemistry Chemical Physics 7 (2005) 3297-3305.
- [13]F. Weigend, Physical Chemistry Chemical Physics 8 (2006) 1057-1065.
- [14]D. Andrae, U. Haeussermann, M. Dolg, H. Stoll, H. Preuss, Theoretica chimica acta 77 (1990) 123-141.
- [15]K. Fukui, Acc. Chem. Res. 14 (1981) 363-368.
- [16]M. Frisch, F. Clemente, Scalmani, V. Barone, B. Mennucci, GA Petersson, H. Nakatsuji, M. Caricato, X. Li, HP Hratchian, AF Izmaylov, J. Bloino and G. Zhe, Gaussian 9 (2010).
- [17]H. Dong, W. Li, M. Junaid, Z. Lu, H. Luo, W. Sun, Applied Sciences 12 (2022) 7873.
- [18]T. Jiang, H. Xie, H. Wu, L. Chen, M. Bi, X. Chen, Materials Today Communications 40 (2024) 109637.