$\alpha\alpha$ - and $\alpha\beta$ -Zinc-meso-A₂B₂-Tetraarylporphyrins with large optical response to volatile amines

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Supplementary Information

- Figure S1 Atom numbering as used for NMR assignments
- NOESY (CD₂Cl₂, 298 K, 400 MHz) of αα-1-2H and αβ-1-2H
- Temperature dependent NMR (T = 278 353 K) of $\alpha\alpha$ and $\alpha\beta$ -1-Zn in DMSO-d₆
- ${}^{13}C{}^{1}H$ -NMR (CD₂Cl₂, 298 K, 100 MHz) of $\alpha\alpha$ -1-Zn
- HMBC (CD_2Cl_2 , 298 K) of $\alpha\alpha$ -1-Zn
- HMBC (CD₂Cl₂, 298 K) of αα-1-Zn (aromatic region)
- HSQC (CD₂Cl₂, 298 K) of αα-1-Zn
- HSQC (CD₂Cl₂, 298 K) of αα-1-Zn (aromatic region)
- NOESY (CD₂Cl₂, 298 K, 400 MHz) of αα-1-Zn
- ${}^{13}C{}^{1}H$ -NMR (CD₂Cl₂, 298 K, 100 MHz) of $\alpha\beta$ -1-Zn
- HMBC (CD₂Cl₂, 298 K) of αβ-1-Zn
- HMBC (CD₂Cl₂, 298 K) of $\alpha\beta$ -1-Zn (aromatic region)
- HSQC (CD₂Cl₂, 298 K) of αβ-1-Zn
- HSQC (CD₂Cl₂, 298 K) of αβ-1-Zn (aromatic region)
- Normalized (to Soret band) absorption spectra of $\alpha\beta$ -1-Zn
- Cartesian Coordinates of DFT optimised of $\alpha\alpha$ -1-Zn, $\alpha\alpha$ -1-Zn(NEt₃)-dist, $\alpha\alpha$ -1-Zn(NEt₃)-prox, $\alpha\beta$ -1-Zn and $\alpha\beta$ -1-Zn(NEt₃)



Figure S1. Atom numbering as used for NMR assignments

Temperature dependent NMR (T = 278 - 353 K) of $\alpha\alpha$ - and $\alpha\beta$ -1-Zn in DMSO-d₆

Partial NMR spectra of $\alpha\alpha$ -1-Zn (red) and $\alpha\beta$ -1-Zn (green) mixture in DMSO-d₆ at different temperatures. Increasing signal intensity for $\alpha\beta$ -1-Zn is due to increasing solubility at higher temperatures.



NOESY (CD_2Cl_2, 298 K, 400 MHz) of $\alpha\alpha\text{-}1\text{-}2H$ and $\alpha\beta\text{-}1\text{-}2H$

Proton numbering according to Fig. S1.



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$^{13}C\{^1H\}\text{-}NMR~(CD_2Cl_2,\,298~K,\,100~MHz)$ of aa-1-Zn

Atom numbering according to Fig. S1.



HMBC (CD₂Cl₂, 298 K) of aa-1-Zn

Atom numbering according to Fig. S1.



HMBC (CD₂Cl₂, 298 K) of aa-1-Zn (aromatic region)

Atom numbering according to Fig. S1.



HSQC (CD₂Cl₂, 298 K) of aa-1-Zn

Atom numbering according to Fig. S1



HSQC (CD₂Cl₂, 298 K) of aa-1-Zn (aromatic region)

Atom numbering according to Fig. S1



NOESY (CD₂Cl₂, 298 K, 400 MHz) of aa-1-Zn

Proton numbering according to Fig. S1.



$^{13}C\{^1H\}\text{-}NMR~(CD_2Cl_2,\,298~K,\,100~MHz)$ of ab-1-Zn

Atom numbering according to Fig. S1.



HMBC (CD₂Cl₂, 298 K) of $\alpha\beta$ -1-Zn

Atom numbering according to Fig. S1.



HMBC (CD₂Cl₂, 298 K) of αβ-1-Zn (aromatic region)

Atom numbering according to Fig. S1.



HSQC (CD₂Cl₂, 298 K) of $\alpha\beta$ -1-Zn

Atom numbering according to Fig. S1



HSQC (CD₂Cl₂, 298 K) of $\alpha\beta$ -1-Zn (aromatic region)

Atom numbering according to Fig. S1



Normalized (to Soret band) absorption spectra of $\alpha\beta$ -1-Zn

in *n*-hexane (-), dichloromethane (-), acetonitrile (-) and chloroform (-). Inset shows magnification of Q-band region.



Cartesian Coordinates of DFT optimized $\alpha\alpha$ -1-Zn(NEt₃)

	1 - 1 - 1 -	1 10050	0 35300
	1.51615	1.18053	0.75796
(0 94473	-1 68389	0 72952
`	0.944/5	1.00000	0.12002
- (0.9448	1.68594	-0.72945
	1 0115	0 5 6 0 7	0 00 0 0
	1.6115	2.5697	0.66543
	2 83208	3 01006	1 32922
4	2.05200	J.01000	1.JZJZZ
	3.46258	1.88801	1.81462
,	0 0007	0 72054	1 45000
4	2.63937	0./3954	1.45663
	3 15548	4 03826	1 40666
		1.05020	1.10000
•	4.39405	1.83705	2.35986
,	2 91161	-0 60367	1 77223
4	2.94404	-0.00307	1.11225
(0.6842	3.42945	0.03327
,	0 4000	0 10417	1 7 (1 0 7
4	2.4693	-3.1041/	1./010/
	1 45752	-3 88894	1 25838
	· · · · · · · · · · · · · · · · · · ·	5.00051	1.20000
(0.50027	-3.00129	0.61021
	2 1/02/	1 7 2 0 0	1 12002
4	2.14954	-1.7200	1.43003
	3.3489	-3.42544	2.30024
	1 2001	1 0 0 0 0 1	1 01405
	1.30221	-4.96394	1.31405
- (0.68356	-3.42753	-0.03438
	1 4 9 6 9	1 2000	1 40000
-2	2.14968	1.7229	-1.43029
_^	2 46964	3 10628	-1 76049
4	2.10001	3.10020	1.10040
- 1	1.45746	3.89097	-1.25852
,	0 50000	2 00227	0 61050
- (0.30000	5.00527	-0.01039
- 3	3.34944	3.42762	-2.2993
	1 26100	4 0 0 0 0 0 0	1 01465
	1.30198	4.96595	-1.31465
-:	2.83103	-3.0082	-1.33103
-	0 4 6 1 0 7	1 00007	1 01566
-,	3.4619/	-1.8860/	-1.81566
- 1	2 63941	-0 73748	-1 45658
		0.75710	1.10000
	1.61094	-2.56771	-0.66639
	3 15377	-1 03653	-1 /097
	5.13377	4.03033	1.4057
	4.39322	-1.83518	-2.36128
_^	2 0/502	0 60579	-1 77161
-,	2.94302	0.00378	-1.//101
4	4.21105	-0.86454	2.54428
	1 22150	0 05744	2 07052
	4.22139	-0.03/44	3.9/032
1	5.43862	-1.10939	4.65757
	c c 2 2 0	1 2 6 2 2	2 05222
	0.0239	-1.3033	3.95232
	6.61345	-1.3693	2.54361
	0 07700	4 00001	0 04001
(0.9//82	4.90901	0.04901
(0.48807	5.72062	1.10798
	0.10007	5.72002	1.10790
(0.76957	/.101	1.10395
	2 00102	6 88097	-0 96367
4	L. UUIUZ	0.00007	0.00007
	1.74053	5.49386	-0.99459
(0 3899	7 71801	1 91727
(1.110UI	1.71/24
	4.21173	0.86672	-2.54314
_ 1	5 4536	1 07977	-1 87//6
	5.4550	1.0/0//	1.0/440
- (6.6236	1.32057	-2.64211
	6 57105	1 35333	_/ 0/015
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-!	5.34415	1.14487	-4.70336
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	4.1/901	0.90456	-3.93083
- (0.9767	-4.90717	-0.05145
	1 74405	E 40050	0 00000
	1./4495	-3.49259	0.98962

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C H C H H Zn

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5.43623	-1.10153	5.74416
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-0.33315	5.12273	2.23801
-1.2497	4.64937	1.86246
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2.96186	3.87409	-1.78281
1.46774	4.14308	-2.67846
2.82193	5.27612	-2.86073
-2.28715	-4.65147	2.13305
-1.47948	-4.14	2.67283
-2.96975	-3.87163	1.77066
-2.83459	-5.27265	2.8507
0.33289	-5.11924	-2.2409
-0.22777	-4.3414	-2.77592
1.25045	-4.64733	-1.86597
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-1.80106	-9.19359	-0.08622
-1.02713	-9.73639	0.47602
-2.76643	-9.42679	0.3/931
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0.90900	9.70044	0.23917
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-5 53863	1 05389	-0 44438
3 02743	-0 59882	4 7189
2.01015	-0.37738	5.36817
-5.62096	1.0354	0.77968
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-4.51963	0.76939	2.98015
-6.92029	1.22035	2.88402
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-3.57477	0.6071	2.46853
-6.97816	1.19273	4.28663
-7.81854	1.40407	2.30053
-5.81226	0.95437	5.04181
-3.68203	0.55919	4.95984
-7.92759	1.35629	4.79095
-5.8596	0.9337	6.12793
0.80719	-0.1155	6.10194
0.80932	-0.10661	7.52116
-0.40967	0.14019	5.41665
-0.37352	0.15088	8.23251
1.73785	-0.30164	8.05113
-1.5886	0.39697	6.13413
-0.41532	0.13447	4.33001
-1.5/682	0.40363	1.3436
-0.30934	0.13303	୬.J1984 5 50757
-2.51405	0.39104	3.39/3/ 8 NG671
-2.49149	0.00299	0.090/4
-0.00006	0.00100	0.00000

X X X X

Cartesian Coordinates of DFT optimized $\alpha\alpha$ -1-Zn(NEt₃)-dist

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_1 75013	-1 04961	-1 00196
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1.00001	1.01339	-0.3893
2.4506	-1.95679	-0.80217
2.77412	-3.3/962	-0.81/32
1.59401	-4.0644	-0.98989
0.52776	-3.07058	-1.07962
3.76624	-3.78947	-0.69179
1.4514	-5.13482	-1.02654
-0.85124	-3.37633	-1.175
3.39406	-0.92461	-0.5838
-3.32186	-2.75774	-1.14862
-4.01614	-1.57733	-1.02739
-3.03157	-0.50466	-0.92941
-1.90032	-2.42784	-1.11842
-3.72772	-3.7551	-1.23703
-5.08747	-1.43834	-0.99793
-3.35256	0.86368	-0.76646
1.94779	2.37802	-0.33815
3.35661	2.68484	-0.10897
4.0488	1.50008	-0.19157
3.07669	0.45017	-0.48127
3.75275	3.66735	0.10366
5.10899	1.34071	-0.05528
-2 74358	3 29433	-0 33958
-1 56083	3 98059	-0 19604
-0 47877	3 02147	-0 39791
-2 40425	1 9016	-0 62957
-3 7/903	3 67699	-0.2369/
1 42929	5.07055	0.23034
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1 22455	1 0 2 0 0 1	-0.20309
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-2.03534	-6.95366	-0.3/4/4
-1.8946	-/.5/24/	-1.62516
-1.41483	-6.83031	-2.7221
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5.27974	-1.63205	0.95672
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5.74169	-1.40349	-1.44417
6.95872	-2.23441	2.16928
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-5.46808	1.16092	0.60134

N N

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1 111/1	5 35510	-2 03409
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2:10000	0.00007	1 74500
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-4 38095	-0.31743	1.77222
1.00000	1 22000	0.00111
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-5.36324	0.8004	2.73623
-1 86792	1 7/20/	-3 16714
4.00792	1./4204	5.10/14
-4.02017	2.43972	-3.1521
-4,47513	0.76781	-3.4862
5 57700	2 00640	2 02020
-5.57708	2.00049	-3.92020
-9.03775	2.28304	-0.31724
-9,62613	1,43335	0.05635
0 100/2	2 11/20	0 20171
-9.10043	3.11439	0.304/4
-9.45874	2.58021	-1.28454
8 98342	-2 49621	0 33763
0.50312	1 75200	0.05150
9.5104	-1./5329	0.92129
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9 53446	-2 60543	-0 60339
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-1.85267	-4.98807	1.09838
_1 98987	4 47025	2 20576
±.,00,00,0	-4 4 / 8 3 3	2.200/0
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1.44592	-4.47835 3.50154	3.40702
1.44592 1.4078	-4.47835 3.50154 2.55214	3.40702 4.47964
1.44592 1.4078 1 21925	-4.47835 3.50154 2.55214 1.17157	3.40702 4.47964 4.20483
1.44592 1.4078 1.21925	-4.47835 3.50154 2.55214 1.17157	3.40702 4.47964 4.20483
1.44592 1.4078 1.21925 1.56165	-4.47835 3.50154 2.55214 1.17157 2.96871	3.40702 4.47964 4.20483 5.82744
1.44592 1.4078 1.21925 1.56165 1.18628	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751	3.40702 4.47964 4.20483 5.82744 5.25257
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 0.81677 2.36005	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1 91096	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.4686	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.6066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.72973	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81772	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.8204
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.87409 -2.56427	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 2.01072	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.5257	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72001
$\begin{array}{c} 1.44592\\ 1.4078\\ 1.21925\\ 1.56165\\ 1.18628\\ 1.10272\\ 1.52863\\ 1.7062\\ 1.34136\\ 1.04212\\ 1.64919\\ 1.31746\\ -2.1514\\ -2.55023\\ -1.91886\\ -2.71263\\ -2.72973\\ -2.08217\\ -1.61576\\ -2.48021\\ -3.01977\end{array}$	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.52857	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 -3.01977 -1.90182	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.52857 -0.74959	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 -3.01977 -1.90182 -2.60784	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -0.74959 -2.07311	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999 6.94826
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 -3.01977 -1.90182 -2.60784 -2.260784	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.81773 -2.56427 -4.52857 -0.74959 -2.07311	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999 6.94826
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 -3.01977 -1.90182 -2.60784 -0.34303	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.87409 -2.56427 -4.52857 -0.74959 -2.07311 1.05847	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.87037 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.5889 2.74179 5.98657 6.72891 4.94999 6.94826 -4.44822
1.44592 1.4078 1.21925 1.56165 1.18628 1.10272 1.52863 1.7062 1.34136 1.04212 1.64919 1.31746 -2.1514 -2.55023 -1.91886 -2.71263 -2.72973 -2.08217 -1.61576 -2.48021 -3.01977 -1.90182 -2.60784 -0.34303 -1.37112	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.52857 -0.74959 -2.07311 1.05847 1.20709	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999 6.94826 -4.44822 -4.10413
$\begin{array}{c} 1.44592\\ 1.4078\\ 1.21925\\ 1.56165\\ 1.18628\\ 1.10272\\ 1.52863\\ 1.7062\\ 1.34136\\ 1.04212\\ 1.64919\\ 1.31746\\ -2.1514\\ -2.55023\\ -1.91886\\ -2.71263\\ -2.72973\\ -2.08217\\ -1.61576\\ -2.48021\\ -3.01977\\ -1.90182\\ -2.60784\\ -0.34303\\ -1.37112\\ 0.25595\end{array}$	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.52857 -0.74959 -2.07311 1.05847 1.20709 -0.12855	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999 6.94826 -4.44822 -4.10413 -3.70208
$\begin{array}{c} 1.44592\\ 1.4078\\ 1.21925\\ 1.56165\\ 1.18628\\ 1.10272\\ 1.52863\\ 1.7062\\ 1.34136\\ 1.04212\\ 1.64919\\ 1.31746\\ -2.1514\\ -2.55023\\ -1.91886\\ -2.71263\\ -2.72973\\ -2.08217\\ -1.61576\\ -2.48021\\ -3.01977\\ -1.90182\\ -2.60784\\ -0.34303\\ -1.37112\\ 0.20595\\ -2.60722\\ -2.60784\\ -0.34203\\ -1.37112\\ 0.20595\\ -2.60722\\ -2.60722\\ -2.60722\\ -2.60722\\ -2.60722\\ -2.60722\\ -2.6072\\ -2.$	-4.47835 3.50154 2.55214 1.17157 2.96871 0.23751 0.84816 2.02888 4.0241 0.66066 -0.81677 2.36005 -0.0661 -3.84129 -4.58477 -2.44686 -3.94885 -5.65212 -1.81773 -1.87409 -2.56427 -4.52857 -0.74959 -2.07311 1.05847 1.20709 -0.12855	3.40702 4.47964 4.20483 5.82744 5.25257 3.17374 6.04299 6.58837 5.02987 7.89919 7.39686 3.47902 4.62016 3.61433 5.86159 4.52149 4.85889 2.74179 5.98657 6.72891 4.94999 6.94826 -4.44822 -4.10413 -3.70208

H	-0.2038	-2.17344	-3.41084
C	1.69357	-0.29705	-3.89097
H	2.18672	0.55047	-3.40802
H	1.97786	-1.18824	-3.32205
C	2.21378	-0.43048	-5.34271
H	1.9696	0.44543	-5.95564
H	3.30767	-0.51866	-5.31566
C	1.82845	-1.32109	-5.85245
H	-2.02624	-1.31946	-4.2134
H	-2.4236	-2.32877	-4.38179
H	-2.46254	-0.94084	-3.28742
H	-2.36231	-0.69079	-5.04631
Н	-2.36231	-0.69079	-5.04631
Н	-0.39203	0.83226	-5.52942
С	0.43521	2.3666	-4.2427
Н	1.4324	2.33939	-4.69672
Н	-0.1217	3.18732	-4.71441
Н	0.54467	2.59949	-3.18154
Zn	0.04333	0.02512	-1.22312

Cartesian Coordinates of DFT optimized $\alpha\alpha$ -1-Zn(NEt₃)-prox

С С С С С С Н

C H H H

С Η Н Н С Н Н Н C H Η H C H Η Н С Н Н

H C C C C C C C C C H

C H C H H H C C C H

C H C H H H C H

-3.16024	-4.09445	-0.08937
-1 07359	-1 20027	0 98003
4.07555		0.90003
-4.90059	-5.44107	0.97174
-4.84497	-6.39194	-0.06724
2 02002	C 1 C 7 7 F	1 10107
-3.93803	-0.10//5	-1.1213/
-3.09552	-5.03646	-1.14931
-5 60133	-5 58813	1 7923/
5.00155	5.50015	1.75254
-3.88446	-6.88465	-1.93922
2.65169	-2.43496	4.29739
4 7410	C 22050	0 70(2)
4./418	0.23838	-0.7963
1.73548	-1.94447	4.61503
5 9267	-4 17387	3 14211
0.0207	0.07715	C 00401
3.18189	-3.0//15	6.29491
-4.81257	3.05446	-0.48404
C CEOD	1 20002	1 50501
-0.0093	4.30003	-1.52561
-5.00365	3.54477	-5.43393
-2 09922	-0 49332	-0 85355
2.7170	C CCE 40	1 05000
3./1/6	6.66548	1.02801
-6.75696	4.61421	-4.01468
5 29/08	-1 20731	5 55535
0.0000		0.50000
U.98998	4.53382	2.72945
0.00854	4.41442	2.25296
1 24044	2 5/150	2 16075
⊥.∠4844	3.36132	3.108/3
0.88451	5.25742	3.54554
3 650.81	3,89204	-1.59831
0.00001	0 07505	1 050001
3.98/12	2.87535	-1.35619
2.77199	3.79215	-2.24885
A 44270	1 30510	-2 17102
4.443/0	4.30319	-2.1/103
-4.1776	-3.30585	2.12493
-3.22962	-3.2254	2.67288
4 41000	0.2201	1 70000
-4.41986	-2.29842	1./6296
-4.95555	-3.60749	2.83512
-2 13924	-1 81391	-2 31/03
-2.13924	-4.04394	-2.51405
-2.3442	-3.90685	-2.84858
-1.09694	-4.7965	-1.97357
2 2220	E 6602E	2 02122
-2.2230	-3.00023	-3.03122
-5.72337	-7.63038	-0.03948
-5 26882	-8 42447	0 57086
6.20002	7 41 2 4 0	0.00000
-6./09	-/.41349	0.39068
-5.87479	-8.03706	-1.04643
1 17250	7 95/07	1 33305
1.1/200	1.55407	1.55505
3.83685	8.69132	1.83859
5.34183	7.77298	1.98222
4 0 4 4 0 C	0 40 61 6	0 40500
4.84496	8.40010	0.40598
-2.92152	2.08954	-4.60313
4,63045	-3.05058	1,14151
5 00710	2.00000	0 00222
5.08/12	-3.08829	0.00333
-2.06063	1.56322	-5.30083
-1,03166	0,93016	-6.07152
1 00500	0 470010	6 00 6 40
-1.00392	-0.4/333	-0.20040
0.03219	1.68464	-6.6304
-0.06096	-1.09944	-7.04055
1 07000	1 05/07	E 0.000
-1.0/898	-1.03486	-3.8002
1.0338	1.0512	-7.38369
0.06271	2.75893	-6.46865
0.002/1	2.75055	7 50000
U.99226	-0.34213	-1.59225
-0.09887	-2.17457	-7.19807
1 84422	1 63979	-7 80731
1 7 6 9 9 1	1.000779	0 1 D C 1 C
1.76894	-0.83033	-8.1/616
5.64119	-3.1031	-1.32101
6 11060	-1 31033	-1 0026
0.11303	-4.JIUJJ	-1.0920
5.73263	-1.90492	-2.07591
6.67247	-4.31667	-3.18378
6 05222	-5 22007	_1 31003
0.00323	-5.23095	-1.31893
6.28884	-1.91741	-3.36553
5,37561	-0,97662	-1.63777
C 7 CO1 1	0.0002	2.00000
0./6UII	-3.12174	-3.92567
7.03546	-5.24872	-3.6103
6 35973	-0.99112	-3,93079
0.000/0	0.00112	1 00070
/.1914/	-3.1286	-4.92372
0.36328	-1.14194	-3.54054
-0 26214	-1 06733	-3 10710
-0.20214	-エ・ジロノンろ	/ T O

N C H C H H C H H C H H H C H H H C H H H C H H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H H C H	1.19301 2.207 2.62421 1.91821 1.16599 2.49991 2.85079 2.31322 3.27931 3.68445 1.66869 2.45007 0.7877 1.42041 3.03525 1.02203 -0.54642 0.01994 -1.19316	-0.6829 -1.74236 -1.44812 0.61169 1.39952 0.83876 0.64743 0.4379 1.65497 -0.05896 -3.1792 -3.81524 -3.24703 -3.58793 -1.73619 -1.5499 -0.06612 0.72872 -0.53605	-2.37014 -1.98849 -1.02 -2.64933 -2.74018 -1.74969 -3.884 -4.81637 -3.97042 -3.80514 -1.90219 -1.46782 -1.26088 -2.88895 -2.71473 -4.32889 -4.15287 -4.65168 -4.90582
 H u	-1.19316	-0.53605	-4.90582
H Zn	-0.08127	-0.11993	-3.395589

Cartesian Coordinates of DFT optimized $\alpha\beta$ -1-Zn



С

-1.59382	-1.14495	0.77057
0.88019	-1.69236	-0.71116
-1.70168	-2.52813	0.66405
-3.52984	-1.74736	1.80266
-2.68625	-0.62574	1.45586
-3.29617	-3.91292	2.34137
-2.92567	0.73051	1.75219
-0.79034	-3.40092	0.03673
-1.32976	3.95012	1.23531
-0.40084	3.00754	0.595
-2.07439	1.80361	2.26338
-1.19322	5.02113	1.28352
0.79636	3.414	-0.03953
2.37079	-3.19303	-1.73605
1.33516	-3.93681	-1.23929
0.40667	-2.99441	-0.59813
1.19837	-5.00776	-1.28829
2.9395	2.91212	-1.32604
2.69218	0.63896	-1.45886
1.7077	2.54124	-0.66689
3.30188	3.9262 1 67844	-1.40844
2.9318	-0.71733	-1.75463
-4.19173	1.04462	2.5054
-6.58963	1.28435	2.56028
-6.55612	1.62519	3.96146
-5.34598	1.39027 -4 87071	4.64336
-0.66583	-5.69555	1.11417
-0.99237	-7.0658	1.11222
-2.21032	-5.43173	-0.93625
-0.63306	-7.69396	1.92624
4.19887 5.4187	-1.03195	-2.50591
6.59308	-1.57692	-2.55517
6.56564	-1.61488	-3.95698

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5.36054	-1.36371	-4.64198
4 10101	1 07510	0.01057
4.19131	-1.0/513	-3.9135/
1 13604	/ 88371	-0 05633
1.13004	4.000/1	0.05055
1.92334	5.44351	0.9846
0 00050	C 01005	0 04001
2.23259	0.81832	U.94901
1 77825	7.65582	-0.09
1.1.020	,.00002	
1.00147	7.07925	-1.11472
0 67053	5 70034	-1 11/5/
0.07055	5./0054	
2.83853	7.2428	1.74831
0 0 0 0 0	7 70/50	_1 0201
0.04484	1.10008	-T.A20T
-4.17801	1.10292	3.9125
0 01/00	7 22400	1 7 6 4 7
-2.81436	-1.23488	-1./004/
-3.24172	0.92154	4.43395
0.211/2	1 95460	0.00505
-7.5176	⊥.75468	2.02507
-5 31173	1 42987	5 72919
5.511/5	1.42,007	5.12515
3.25882	-0.88145	-4.4374
5 22100	-1 39199	-5 7283
J.JJT00	T. J. J. T. O. O	5.1205
7.51724	-1.77108	-2.01765
1 50000	1 1 5 0 1 0	-0 77376
T.2AA08	7.T20T9	-0.//3/6
-1.76858	-7.64326	0.08558
- 40000	1 00050	1 51001
7.47323	-1.83823	-4.51221
-7 46284	1.84768	4.51858
7.40204	1.01/00	1.01000
0.17722	-5.12289	2.24106
1 1100/	-4 6869	1 86274
1.11084	4.0009	1.002/4
-0.35265	-4.32198	2.77323
0 10670	-5 00057	2 06002
0.436/6	-2.0995/	∠.90903
-2.41521	-4.57769	-2.14101
2.11021	2 7 7 7 0 2	1 70704
-3.06677	-3./6/88	-1./8/24
-1 58601	-4.10308	-2.68166
1.00001	1.10000	2.00100
-2.98509	-5.18233	-2.85538
2 /2510	4 58636	2 13008
2.40012	ч. ЈОСОС	2.13000
1.61025	4.09937	2.66601
2 00524	2 7054	1 7710
3.09534	3./8564	1.//19
2.99781	5.19118	2.84983
2.001	C 10000	0 0 4 1 1 4
-0.17402	5.13732	-2.24114
0 35121	4.33102	-2.76967
0.00121	1.00102	2.10201
-1.1111	4.70881	-1.86273
0 40750	5 01010	_2 07010
-0.42/58	2.21213	-2.9/212
2.09622	9.14065	-0.09241
1 22007	0 7000	0 4 5 4 1 0
1.32987	9./096	0.40412
3.06007	9.34554	0.38915
0.10411	0 5 4 1 1	1 11000
2.13441	9.5411	-1.11265
-2 10903	-9.12336	0.10933
2.10003	2.12330	0.10000
-1.20087	-9.74092	0.13929
-2 70526	-9 30057	0 00500
-2./0526	-9.3803/	0.99099
-2.68452	-9.41568	-0.77646
E 470/0	_1 05070	_0 20020
3.4/062	-1.230/9	-0.30020
-5.47494	1.24244	0.3835
E F0011	1 20050	0 04010
-5.52011	1.20959	-0.84216
5.50908	-1.23612	0.84583
E E1040	1 00401	0 07075
5.51248	-1.20401	2.2/8/5
4,29981	-1.00776	2,99082
	1 0 0 0 0 1	2.22002
6./1893	-1.36601	3.00823
4 29946	-0.97481	4.39441
	0.07.101	1.00111
3.37378	-0.8849	2.43581
6 71064	-1 33105	<u> 1</u> 110
0./1064		4.4113
7.64964	-1.51641	2.46756
	-1 1363	5 11004
5.50253	-T.T202	J.TTUAD
3.36465	-0.82379	4.92884
7 64107	1 45700	1 0 0 0 0 0
/.0412/	-1.43/06	4.90038
5.49866	-1.11029	6.19803
5.35000	1 1 2 2 2 2	0.10000
-5.53214	⊥.⊥6495	-2.2/466
-6 73833	1,35012	-2,9991
0.10000	1.00012	2.222
-4.32851	0.93361	-2.99156
-6 73061	1 20/17	-4 10215
-0./3004	1.3041/	·+.+UZ4J
-7.6621	1.52784	-2.45482
1 22660	0 00000	1 2010
-4.33669	0.88906	-4.3948
-3.40251	0.79386	-2.44051
5.10201 F F0040	1 07055	E 1000T
-5.53948	1.07355	-5.10627
-7.66896	1.44741	-4.947
,		4 0 2 0 0
-3.40867	0.71156	-4.9329
E E4000	1 03863	-6 10300
=.)	T • U · J (J (J · J	-0.1.2.30.9

Zn -0.01082 -0.02923 -0.09239

Cartesian Coordinates of DFT optimized $\alpha\beta$ -1-Zn(NEt₃)



1.67955 0.51073 -0.56695 1.99107 3.20062 3.60016 2.63586 3.66376 4.4504 2.64459 1.25841	0.764 -1.88392 1.81617 2.12153 2.28954 1.03994 0.08576 3.2408 0.78386 -1.29349 3.18629	0.71337 0.59104 -0.80235 0.79276 1.5822 1.99044 1.46551 1.80091 2.60562 1.75376 0.23155
1.60925	-3.60545	1.69733
-0.23675	-3.05466	0.48148
2.36798	-4.11506	2.27278
0.09809	-5.15024	1.23262
-1.71825	2.13371	-1.5207
-1.7761 -0.68063	3.57263 4.11745	-1.7253
0.07441	3.02114	-0.51469
-2.56505 -0.4065	4.0892 5.15985	-2.25219
-3.43992	-2.29674	-1.48341
-3.78193	-1.06465	-1.98482
-2.1564	-2.15033	-0.81454
-4.67198	-0.79549	-2.53456
-2.71804	1.2319	-1.93707
5.0351	-2.13209	2.16513
6.00928 5 70758	-2.64059	3.06602
4.42058	-2.51918	4.90201
1.73183 1.22194	4.5917 5.28755	0.50502
1.66943	6.59871	1.89231
3.09664 2.67496	6.53673 5.2209	-0.05709
1.27866	7.12665	2.76102
-5.10245	2.14314	-2.15493
-6.14284	2.65097	-2.97868
-4.73668	2.43876	-4.95136
-3.70014	1.93493 -4 54977	-4.14445
2.10100	1.010//	· · · · · · · · ·

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C H C H H

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-3.0468	-4.84023	0.9558
2 (7147	C 1001E	1 00202
-3.0/14/	-0.10213	1.00202
-3.43722	-7.08635	0.01914
-2 55042	-6 77672	-1 02967
2.55042	5.7707Z	1 10000
-1.90292	-5.52483	-1.10995
-4.35567	-6.31918	1.82102
-2 3561	-7 52022	-1 80083
-2.3301	0.00111	1.000000
3.44837	-2.02114	4.01698
3.82117	7.01473	-0.7142
2 45382	-1.77857	4.38193
2.10002	2 0777/	1.00100
6.99869	-2.8///4	2.68464
4.1768	-2.6608	5.9518
-2 75113	1 65772	-4 59702
2.75115	2.00772	
-4.5881	2.54938	-0.02256
-7.08467	2.92873	-2.51352
-1 72868	-0 82811	-0 9225
2.72000	7 24247	1 05711
2.60556	1.24347	1.05/11
-6.77301	3.18734	-4.97546
6 46552	-3 21968	5 09778
0.10002	A CA1C7	0.00110
0.20625	4.0410/	∠.30331
-0.73942	4.4368	2.04487
0 5589	3,67654	2,94717
0.0000	5.07004	2 11770
-0.01048	5.29234	3.41//2
3.24034	4.50565	-1.56261
3.78615	3.59676	-1.27549
0.,0010	1 10010	-0 05056
2.44403	4.19812	-2.2000
3.9318	5.15454	-2.11156
-3.33989	-3.81214	2.03508
2.0000	2 4 6 0 5 4	2.00000
-2.42245	-3.46954	2.5291
-3.8188	-2.91616	1.61939
-4.00621	-4.22706	2.79951
0.05464	E 24C20	2 2 2 4 4 2
-0.95464	-3.24628	-2.20443
-1.27282	-4.36809	-2.84214
0.0644	-5.04519	-1.90726
0.00011	C 10125	2 04700
-0.90908	-0.10135	-2.94/96
-4.11922	-8.44071	0.09821
-3.77396	-9.00938	0.97308
E 00034	0.00000	0 10000
-5.20834	-8.33432	0.19086
-3.91518	-9.04495	-0.79318
3.06346	8.66057	1.35388
2,00010	0.2710	1 2002
2.22896	9.3/18	1.2803
3.47038	8.74377	2.37071
3.8412	8.98565	0.65347
5 21002	2 01054	0 74551
-5.51995	2.01934	-0.74551
5.40129	-1.95525	0.78833
5.78878	-1.82431	-0.36884
-5 5246	1,92388	0.46052
	1 00170	1 07047
-5./4056	T.001/8	1.0/24/
-4.70057	1.32999	2.71572
C 00000		
-0.99/8/	2.15047	2.44339
-0.99282	2.15047	2.44339
-6.99282	2.15047 1.21278	2.44339 4.09839
-6.99282 -4.91783 -3.73679	2.15047 1.21278 1.06297	2.44339 4.09839 2.28965
-6.99282 -4.91783 -3.73679 -7.19959	2.15047 1.21278 1.06297 2.02958	2.44339 4.09839 2.28965 3.82662
-0.99282 -4.91783 -3.73679 -7.19959 -7.78934	2.15047 1.21278 1.06297 2.02958 2.51226	2.44339 4.09839 2.28965 3.82662
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934	2.15047 1.21278 1.06297 2.02958 2.51226	2.44339 4.09839 2.28965 3.82662 1.79804
-6.1632	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.24744	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23244	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527 6.05592	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344 0.48388	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589 -4.38518
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527 6.05592 7.55995	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344 0.48388 -1.23907	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589 -4.38518 -5.39187
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527 6.05592 7.55995 0.20391	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344 0.48388 -1.23907 -0.66458	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589 -4.38518 -5.39187 -3.22534
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527 6.05592 7.55995 0.20391 0.26962	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344 0.48388 -1.23907 -0.66458 -1.56450	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589 -4.38518 -5.39187 -3.22534
-6.99282 -4.91783 -3.73679 -7.19959 -7.78934 -6.1632 -4.11285 -8.16212 -6.32473 6.25636 7.11458 5.8786 7.57853 7.4082 6.34744 5.2318 7.19774 8.23527 6.05592 7.55995 0.20391 -0.36862	2.15047 1.21278 1.06297 2.02958 2.51226 1.56027 0.85177 2.29946 1.46798 -1.66792 -2.63799 -0.53983 -2.48241 -3.50413 -0.38882 0.21241 -1.35849 -3.23344 0.48388 -1.23907 -0.66458 -1.54509	2.44339 4.09839 2.28965 3.82662 1.79804 4.65965 4.73351 4.25524 5.73133 -1.71695 -2.29728 -2.49046 -3.61352 -1.71037 -3.80553 -2.04727 -4.37371 -4.04589 -4.38518 -5.39187 -3.22534 -3.02085

С H C H H C H H H H H H H H H H H H H	2.07015 2.76138 1.96613 1.312 2.66908 2.74624 2.20849 3.71075 2.86152 1.25804 1.88207 0.42651 0.90127 2.60892 0.76438 -0.74456 -0.33138 -1.69703	-1.57921 -1.39998 0.8023 1.66552 1.00793 0.55468 0.9773 1.01283 -0.49814 -2.85193 -3.56211 -2.60355 -3.27444 -1.7112 -0.80474 0.53708 1.2212 0.19412	-1.95545 -1.15859 -2.43091 -2.56 -1.6229 -3.7354 -4.55827 -3.66663 -3.88768 -1.65173 -1.1506 -1.02582 -2.56776 -2.87044 -4.12597 -3.39272 -4.10417 -3.73925
H H	-1.69703 -0.86428	0.19412 1.03085	-3.73925 -2.45104
Zn	-0.02619	-0.03207	-0.09954