Supporting Information available for

Identifying the Hydrogenated Planar Tetracoordinate Carbon: a Combined Experimental and Theoretical Study of CAl_4H and CAl_4H^-

Jing Xu, [§, ξ, +] *Xinxing Zhang,* * [†, +] *Shuang Yu,* [§] *Yi-hong Ding,* * [§] *and Kit H. Bowen* * [‡]

[§] Laboratory of Theoretical and Computational Chemistry, Institute of Theoretical Chemistry, Jilin University, Changchun 130023, People's Republic of China.

[†] Noyes Laboratory of Chemical Physics and the Beckman Institute, California Institute of Technology, Pasadena, California, 91125, USA.

[‡] Departments of Chemistry and Material Sciences, Johns Hopkins University, Baltimore, Maryland, MD 21218, USA.

Corresponding Author

*E-mail: zhangx@caltech.edu ; *E-mail: yhdd@jlu.edu.cn ; *E-mail: kbowen@jhu.edu

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1. Experimental and theoretical methods

Anion photoelectron spectroscopy was conducted by crossing a mass-selected, negative ion beam with a fixed-energy photon beam and analyzing the energies of the resultant photodetached electrons. This technique is governed by the well-known energy-conserving relationship, hν = EBE + EKE, where hν, EBE, and EKE are the photon energy, electron binding energy (transition energy), and the electron kinetic energy, respectively. Our photoelectron instruments, which have been described elsewhere,[1] consist of an ion source, a linear time-of-flight mass spectrometer, a mass gate, a momentum decelerator, a neodymium-doped yttrium aluminum garnet (Nd:YAG) laser operated at various harmonics for photodetachment, and a magnetic bottle electron energy analyzer with a resolution of 35 meV at EKE = 1 eV. The photoelectron spectra were calibrated against the well-known photoelectron spectrum of Cu^-.[2] In this experiment, carbon aluminum hydride clusters were generated by a pulsed arc cluster ionization source (PACIS), which has been described in detail elsewhere.[3] This PACIS source has been proven to be a powerful tool for generating metal and metal hydride cluster anions.[4–14] In brief, a ~30 μs long, 150 V, 1000 A electrical pulse applied across the anode and sample cathode of the discharging chamber vaporizes the aluminum and carbon atoms and forms plasma. In this case the cathode was prepared by mixing and pressing aluminum and carbon powder into a well drilled hole on the top of an aluminum rod. About 200 psi of ultrahigh purity hydrogen gas was then injected into the arc region, and broken into H atoms. The plasma mix was then flushed down in a 20 cm flow tube, where it reacted, formed clusters and cooled. Anions generated by this method are at a temperature of 450 K.[4] The anions were then mass-selected for photoelectron spectroscopic studies. The high power of this PACIS source and its ability of breaking molecules and metals into atoms turn out to be the key of generating metal hydride clusters in the gas phase, while other conventional ion sources, such as laser vaporization source, cannot make these novel clusters.

The global, unbiased, isomeric search for CAl_4H and CAl_4H^- were done by using the home-developed "grid" program.[15–21] In this strategy, a three-dimensional box containing 6x6x6 grid points are built up. The distance between the neighboring grid points is set to the averaged value of H-H, C-H, C–Al and Al–Al single bonds. The five heavy atoms (one C and four Al) and one H-aom are placed onto these grid sites to exhausitively sort possible effective sets. If no atoms or groups are completely separated from the remaining parts, the structure can be considered as an effective starting structure for the CAl_4H or CAl_4H^-. In each system, we have totally 2026 input structures. The geometry and frequency calculations of the initial structures were computed at the B3LYP[22–24]/6-31G(d)[25] level. We totally obtained 32 local minima for CAl_4H^- and 41 local minima for CAl_4H, all of which have all positive frequency values. Then, we performed CBS-QB3 calculations[26] for all the minima. In order to improve the accuracy, high level B3LYP/aug-cc-pVTZ[27] (for geometry and vibrational frequencies) and

CCSD(T)[28,29] /aug-cc-pVTZ (for single-point energy) calculations are performed for all the low-lying isomers (ΔE<10 kcal/mol at CBSQB3 level). Natural bond orbital (NBO)[30,31] analyses at the B3LYP/aug-cc-pVTZ level were also carried out. All calculations were performed using the Gaussian 03[32] and Gaussian 09 [33] program packages.

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2.

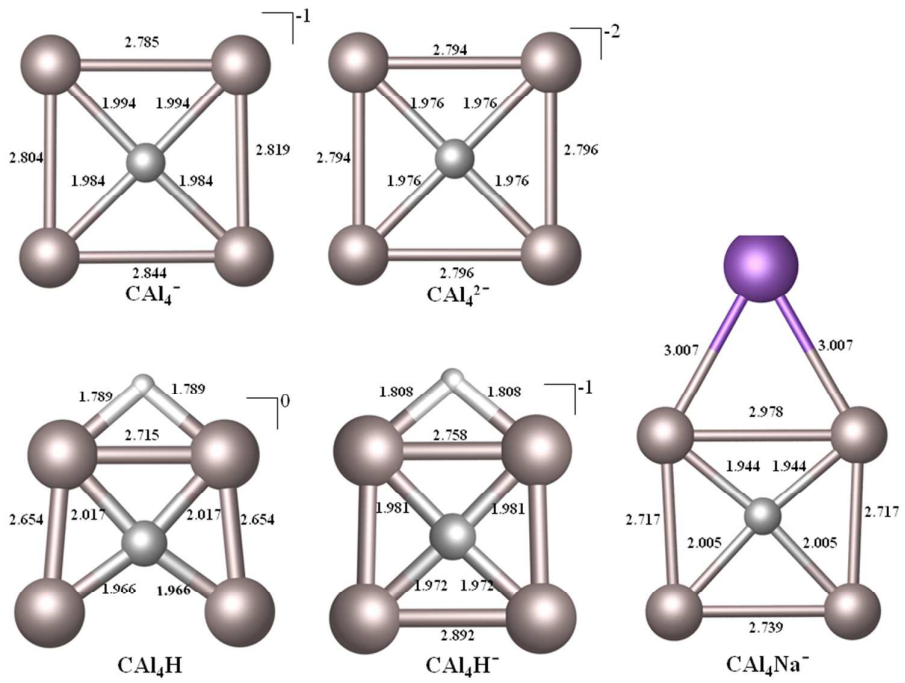

Figure S1. The key structural parameters of CAl_4^-, CAl_4^{2-}, CAl_4H, CAl_4H^- and CAl_4Na^- at the level of B3LYP/aug-cc-pVTZ.

3.

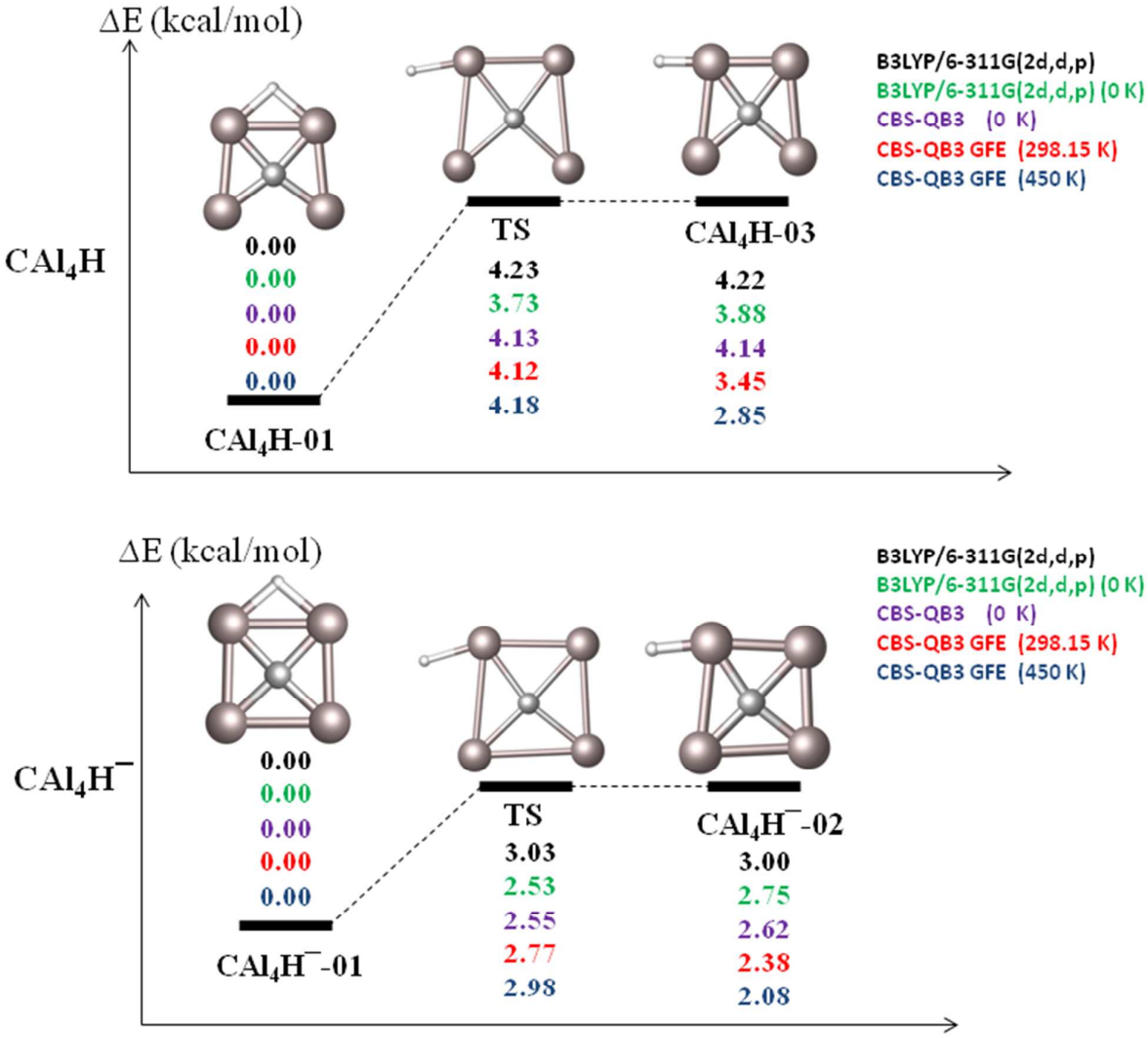

Figure S2. The conversion between CAl_4H-01 and CAl_4H-03, CAl_4H^--01 and CAl_4H^--02. The black values are the energy differences at the level of B3LYP/6-311G(2d,d,p), green values are corrected with zero-point energy, and purple values are at the level of CBS-QB3 with zero-point energy correction. Red and blue values are the Gibbs free energy differences at CBS-QB3 level at 298.15K and 450K.

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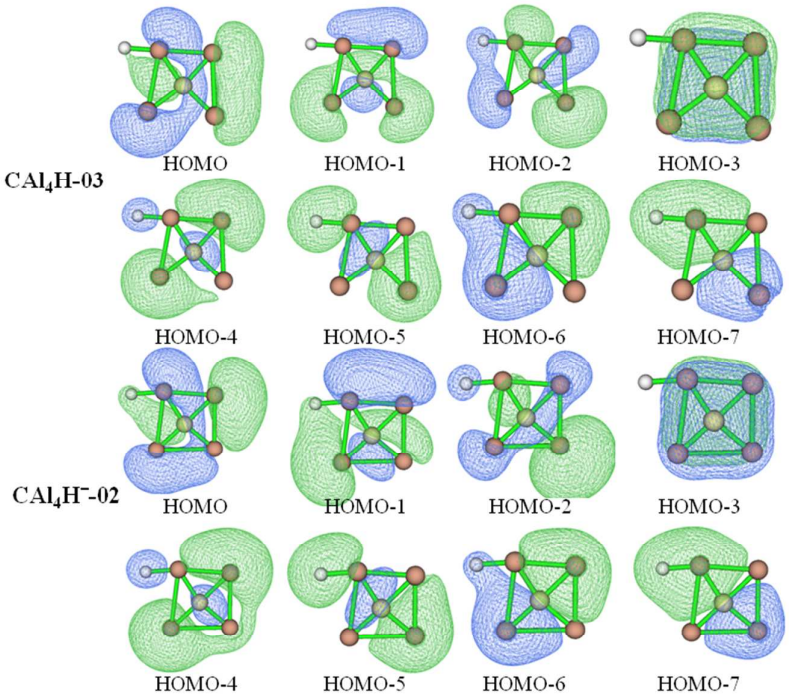
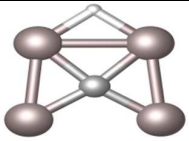
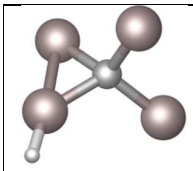
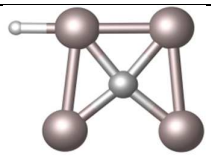
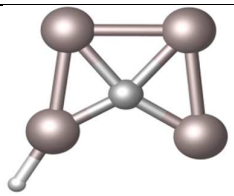
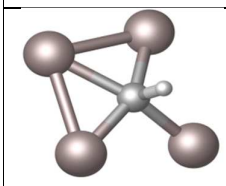


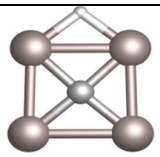
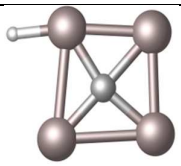
Figure S3. Molecular orbitals of neutral CAl_4H-03 and anion CAl_4H^--02 with the terminal-H ptC at the level of B3LYP/aug-cc-pVTZ.

5. Structures, total energies (E), zero-point energies (ZPE) and the Cartesian coordinates all the low-lying CAl_4H isomers (ΔE< 10kcal/mol) at the levels of B3LYP/aug-cc-pVTZ and CCSD(T)/aug-cc-pVTZ//B3LYP/aug-cc-pVTZ. All the energies are in Hartree.

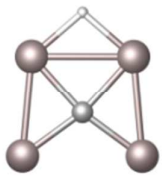
CAl_4H	B3LYP/aug-cc-pVTZ	CCSD(T)/aug-cc-pVTZ//B3LYP/aug-cc-pVTZ
	E= -1008.47980968 ZPE= 0.012859 13 0 -1.357579 -1.295756 0.000000 1 0 -0.000085 -2.462105 0.000000 6 0 0.000002 0.196027 0.000000 13 0 -1.593297 1.348021 0.000000 13 0 1.357485 -1.295856 0.000000 13 0 1.593399 1.347883 0.000000	E= -1006.5778215 13 0 -1.357579 -1.295756 0.000000 1 0 -0.000085 -2.462105 0.000000 6 0 0.000002 0.196027 0.000000 13 0 -1.593297 1.348021 0.000000 13 0 1.357485 -1.295856 0.000000 13 0 1.593399 1.347883 0.000000

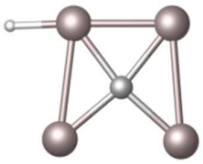
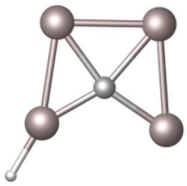
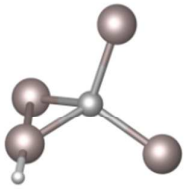
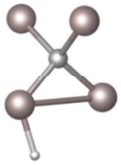
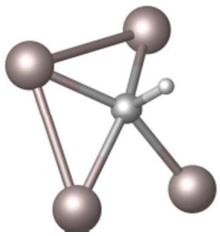
	E=-1008.47335954 ZPE= 0.012460 13 0 -1.773955 0.422462 0.000000 1 0 -2.481988 1.839920 0.000000 13 0 -0.714583 -1.782072 0.000000 6 0 0.160640 0.038066 0.000000 13 0 1.988432 -0.742240 0.000000 13 0 0.654066 1.958888 0.000000	E=-1006.5745201 13 0 -1.773955 0.422462 0.000000 1 0 -2.481988 1.839920 0.000000 13 0 -0.714583 -1.782072 0.000000 6 0 0.160640 0.038066 0.000000 13 0 1.988432 -0.742240 0.000000 13 0 0.654066 1.958888 0.000000
	E=-1008.47341714 ZPE= 0.012522 13 0 -1.206383 1.718207 0.000000 6 0 0.056759 0.240362 0.000000 13 0 -1.710116 -0.968654 0.000000 13 0 1.843336 0.715668 0.000000 1 0 2.973739 1.812875 0.000000 13 0 0.810189 -1.696229 0.000000	E=-1006. 5743261 13 0 -1.206383 1.718207 0.000000 6 0 0.056759 0.240362 0.000000 13 0 -1.710116 -0.968654 0.000000 13 0 1.843336 0.715668 0.000000 1 0 2.973739 1.812875 0.000000 13 0 0.810189 -1.696229 0.000000
	E=-1008.47338000 ZPE= 0.012701 13 0 -1.242201 -0.244231 1.237358 1 0 -1.275101 -0.543490 2.795186 13 0 -1.422371 0.230247 -1.345099 6 0 0.168026 0.004697 -0.055079 13 0 1.364524 -1.557557 -0.313971 13 0 1.336735 1.582436 0.232938	E=-1006.5731499 13 0 -1.242201 -0.244231 1.237358 1 0 -1.275101 -0.543490 2.795186 13 0 -1.422371 0.230247 -1.345099 6 0 0.168026 0.004697 -0.055079 13 0 1.364524 -1.557557 -0.313971 13 0 1.336735 1.582436 0.232938
	E=-1008.47171996 ZPE= 0.013544 13 0 -2.193237 0.006925 -0.121249 13 0 1.999705 -0.005870 -0.137345 13 0 0.166500 -2.026381 0.015421 6 0 -0.196707 0.000873 0.268556 1 0 -0.378990 0.001660 1.370946 13 0 0.178808 2.025785 0.014519	E=-1006.5722183 13 0 -2.193237 0.006925 -0.121249 13 0 1.999705 -0.005870 -0.137345 13 0 0.166500 -2.026381 0.015421 6 0 -0.196707 0.000873 0.268556 1 0 -0.378990 0.001660 1.370946 13 0 0.178808 2.025785 0.014519

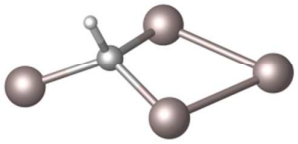
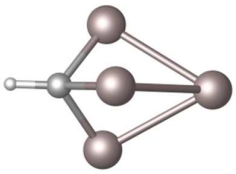
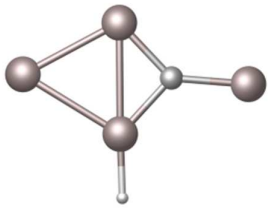
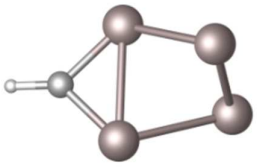
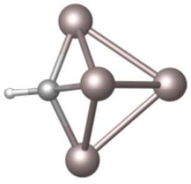
6. Structures, total energies (E), zero-point energies (ZPE) and Cartesian coordinates of all the low-lying CAl_4H^- isomers (ΔE< 10kcal/mol) at the levels of B3LYP/aug-cc-pVTZ and CCSD(T)/aug-cc-pVTZ//B3LYP/aug-cc-pVTZ. All the energies are in Hartree.

CAl_4H^-	B3LYP/aug-cc-pVTZ	CCSD(T)/aug-cc-pVTZ//B3LYP/aug-cc-pVTZ
	E= -1008.56782972 ZPE=0.013015 13 0 1.375725 -1.347696 0.000000 1 0 -0.006618 -2.513768 0.000000 6 0 0.000191 0.078375 0.000000 13 0 1.450012 1.415520 0.000000 13 0 -1.382821 -1.340446 0.000000 13 0 -1.442603 1.423085 0.000000	E= -1006.6743261 6 0 0.002068 0.154093 0.000000 13 0 1.951227 0.471255 0.000000 13 0 -0.551007 2.014855 0.000000 13 0 -1.720356 -0.715107 0.000000 13 0 0.556000 -1.857126 0.000000 1 0 -3.049486 0.206482 0.000000
	E=-1008.56309743 ZPE=0.012717 13 0 1.375725 -1.347696 0.000000 1 0 -0.006618 -2.513768 0.000000 6 0 0.000191 0.078375 0.000000 13 0 1.450012 1.415520 0.000000 13 0 -1.382821 -1.340446 0.000000 13 0 -1.442603 1.423085 0.000000	E=-1006.6698457 6 0 0.002068 0.154093 0.000000 13 0 1.951227 0.471255 0.000000 13 0 -0.551007 2.014855 0.000000 13 0 -1.720356 -0.715107 0.000000 13 0 0.556000 -1.857126 0.000000 1 0 -3.049486 0.206482 0.000000

7. Structures, total energies and Cartesian coordinates of 41 isomers of CAl_4H at the level of CBS-QB3 with zero-point energy correction.

	E= -1006.587067 13 -1.357698 1.297055 0.000182 13 1.356942 1.297910 -0.000226 6 0.000131 -0.193404 0.000328 13 1.591310 -1.346956 0.000127 13 -1.590560 -1.347569 -0.000223 1 -0.000704 2.454692 -0.000149

	E= -1006.580456 1 2.276527 -2.040203 0.000000 13 0.732518 -1.680642 0.000000 13 1.803050 0.980823 0.000000 13 -1.627318 -1.035764 0.000000 13 -1.083368 1.820898 0.000000 6 0.000000 0.155186 0.000000
	E= -1006.580208 1 2.425781 2.496294 0.000000 13 1.614977 1.146480 0.000000 13 -1.589963 1.359666 0.000000 6 0.000000 0.248012 0.000000 13 1.206301 -1.442316 0.000000 13 -1.417912 -1.370319 0.000000
	E= -1006.579424 1 -1.242067 -0.960904 2.681660 13 -1.247118 -0.397181 1.199280 13 -1.411646 0.419723 -1.315267 13 1.357637 -1.526989 -0.428875 13 1.322280 1.570974 0.364181 6 0.161182 0.016009 -0.055466
	E= -1006.577905 13 1.421409 0.016572 -1.414677 1 2.558218 -0.014714 1.321824 13 -1.269242 -1.615335 -0.117583 6 -0.105581 0.000994 -0.072595 13 -1.266181 1.619903 -0.082295 13 0.965958 -0.020468 1.546381
	E= -1006.573790 1 -0.320222 -0.002019 1.372753 6 -0.207059 -0.001054 0.256792 13 -2.204866 -0.005271 -0.117474 13 0.160096 -2.022007 -0.003925 13 0.148662 2.022315 -0.003789 13 2.016306 0.005604 -0.098928

	E= -1006.570606 1 -1.282202 0.000061 1.515119 6 -0.889907 0.000040 0.475088 13 0.314511 -1.509514 0.037401 13 0.314590 1.509519 0.037388 13 2.619286 -0.000033 -0.149977 13 -2.739029 0.000004 -0.260631
	E= -1006.569521 6 1.479189 -0.001516 0.003637 13 0.372972 -1.049257 -1.266371 13 0.364114 -0.573914 1.542082 13 0.373592 1.622095 -0.273543 13 -1.991166 0.002020 -0.004478 1 2.571204 -0.003191 0.008199
	E= -1006.564471 1 2.870254 -0.443314 0.000000 13 1.288731 -0.384835 0.000000 6 0.000000 0.981675 0.000000 13 -0.345331 -2.696384 0.000000 13 -1.447182 -0.215209 0.000000 13 0.282993 2.877449 0.000000
	E= -1006.563004 1 -3.226454 -0.000520 0.001076 6 -2.139311 -0.000654 0.000112 13 -0.812153 -1.083793 0.757046 13 -0.813092 1.082703 -0.757991 13 1.429043 0.988626 0.831027 13 1.431766 -0.987195 -0.830216
	E= -1006.560836 6 0.038355 -1.288527 -0.043585 1 0.069329 -2.224469 -0.614029 13 0.008268 -0.199863 1.507914 13 1.797660 -0.395746 -0.618498 13 -0.064700 1.853216 -0.204120 13 -1.764264 -0.491789 -0.617947

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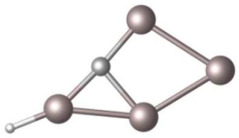
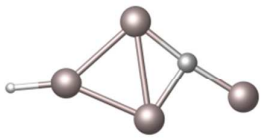
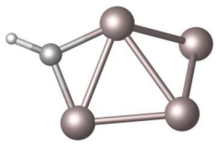
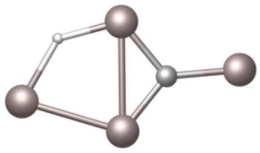
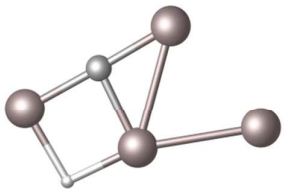
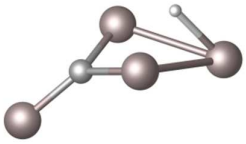
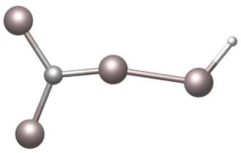
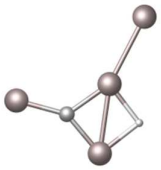
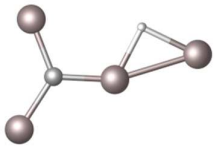
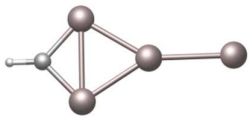
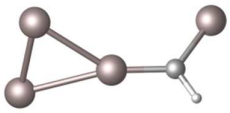
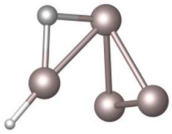
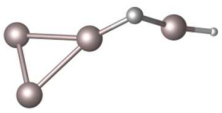
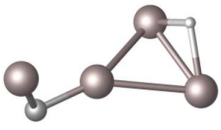
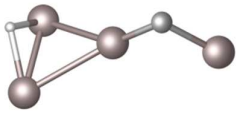
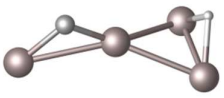
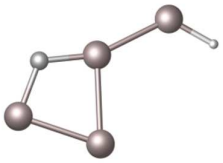
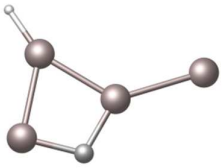
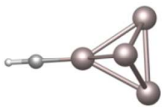
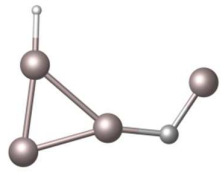
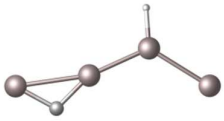
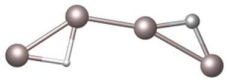
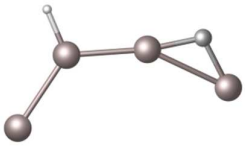
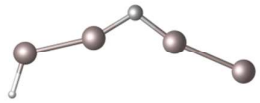
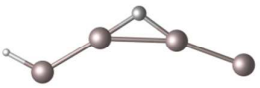
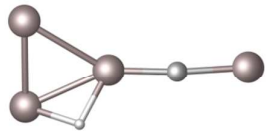
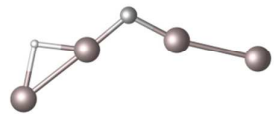
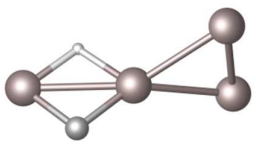
	E= -1006.560109 1 -4.056487 -0.213648 0.104783 13 -2.486467 -0.128847 0.035792 13 2.535775 -0.599878 0.040837 6 -0.842460 0.669944 -0.049235 13 0.774909 1.612434 -0.009626 13 -0.123351 -1.176480 -0.052339
	E= -1006.559999 1 1.332910 -3.766569 0.000000 13 0.836840 -2.252340 0.000000 13 -1.053423 -0.485474 0.000000 13 1.662289 0.265377 0.000000 6 0.000000 1.158078 0.000000 13 -1.548238 2.227675 0.000000
	E= -1006.557078 1 2.818484 -1.601572 -0.023750 6 1.932874 -0.970610 -0.051046 13 0.160268 -1.235258 0.502396 13 1.650857 0.834686 -0.473407 13 -0.720816 1.467945 0.503096 13 -2.199211 -0.496201 -0.506698
	E= -1006.553691 13 -0.299013 -2.881273 0.000000 13 1.547424 -0.070980 0.000000 1 1.259961 -1.781815 0.000000 6 0.000000 0.989008 0.000000 13 -0.010874 2.933811 0.000000 13 -1.334457 -0.300960 0.000000

	E= -1006.548666 13 -0.646322 1.645841 -0.002509 6 0.958592 0.718510 0.009605 13 2.612314 -0.186277 -0.001786 13 0.100387 -1.056216 0.000277 1 1.669169 -1.810543 -0.007027 13 -2.637204 -0.595695 0.000126
	E= -1006.545910 13 2.344564 -0.109374 0.653869 13 0.220605 -1.417497 -0.510034 13 0.375356 1.499762 -0.418874 13 -2.626975 -0.020429 0.484592 6 -0.947516 0.105055 -0.293988 1 1.608949 -0.012333 -0.960276
	E= -1006.541457 13 -1.245388 -2.178467 0.000000 6 0.293397 -1.020359 0.000000 13 2.146746 -1.617470 0.000000 13 0.000000 0.765966 0.000000 13 -1.029815 3.158282 0.000000 1 -0.090440 4.454106 0.000000
	E= -1006.540844 13 -1.783988 2.868648 0.000000 13 0.000000 0.745126 0.000000 1 1.728789 1.199269 0.000000 13 -0.752637 -2.627334 0.000000 6 0.416482 -1.120084 0.000000 13 2.211419 -0.561730 0.000000
	E= -1006.535810 13 3.406311 -0.139407 -0.000603 1 1.873910 0.983884 0.002189 13 0.761096 -0.423570 0.001024 13 -2.398448 -1.371653 -0.000229 6 -1.072118 0.013096 -0.000635 13 -1.418283 1.852903 -0.000068

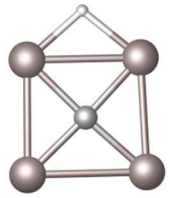
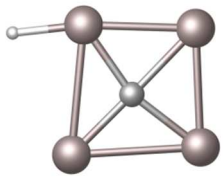
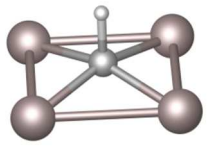
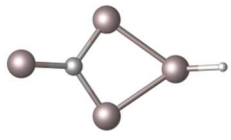
	E= -1006.533805 1 0.013112 -3.799776 0.000000 6 0.009729 -2.712404 0.000000 13 -1.367737 -1.423671 0.000000 13 1.379646 -1.415662 0.000000 13 0.000000 0.796692 0.000000 13 -0.017408 3.586810 0.000000
	E= -1006.514478 13 -2.450782 -1.031099 -0.377779 13 -1.974998 1.404370 0.090224 13 0.097744 -0.341698 0.369053 13 3.275912 0.268763 -0.488710 6 1.900431 -0.479229 0.631502 1 2.275020 -1.028990 1.504750
	E=- -1006.505762 1 -1.604789 -2.647864 -0.009761 13 -1.238359 -1.109953 -0.005513 13 1.381815 -0.193984 1.287893 13 -0.448625 1.428057 0.006354 6 -2.077828 0.564622 -0.001507 13 1.387612 -0.181033 -1.287288
	E= -1006.499148 13 -2.231721 -1.238692 -0.177580 13 0.206555 -0.020091 0.342106 13 -2.204789 1.264259 -0.130410 6 1.897193 -0.069010 1.000403 13 3.025687 0.020131 -0.391382 1 4.272331 0.081167 -1.357960
	E= -1006.498604 1 1.989623 0.000099 -1.373017 13 2.140855 -1.249628 -0.076558 13 2.140826 1.249686 -0.076415 13 -0.327966 -0.000071 0.301913 13 -3.165768 0.000102 -0.486550 6 -2.038822 -0.000209 0.960323

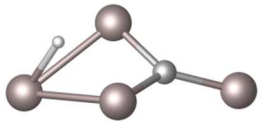
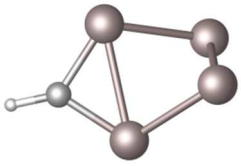
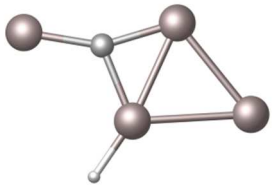
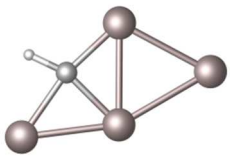
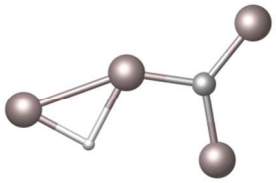
	E= -1006.496973 1 -2.365309 0.000150 1.130878 13 -2.147658 -1.242883 -0.162600 13 -2.130634 1.254425 -0.147396 13 0.340436 -0.009521 0.228076 6 2.019981 -0.024464 0.963119 13 3.187503 0.009258 -0.449586
	E= -1006.494065 1 2.362483 -0.000045 1.131339 13 2.139835 -1.248549 -0.155040 13 2.138768 1.249269 -0.154033 13 -0.340587 -0.000554 0.226114 6 -2.019272 -0.001672 0.963542 13 -3.187774 0.000610 -0.448780
	E= -1006.489660 13 -2.083682 -1.555106 0.000000 6 -1.741362 0.272967 0.000000 13 0.571878 -1.902734 0.000000 13 0.000000 0.809659 0.000000 13 2.041538 2.377843 0.000000 1 3.561629 1.876597 0.000000
	E= -1006.483730 1 -2.211438 -2.773108 0.000000 13 -1.023917 -1.707927 0.000000 13 1.545768 -1.893881 0.000000 13 0.000000 0.675307 0.000000 13 -1.156927 3.156748 0.000000 6 1.744571 -0.036685 0.000000
	E= -1006.482145 1 -0.797921 4.041791 0.000000 6 -0.592487 2.979071 0.000000 13 -0.234283 1.189227 0.000000 13 1.754090 -0.648553 0.000000 13 -0.592487 -1.113268 1.381114 13 -0.592487 -1.113268 -1.381114

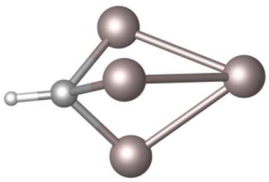
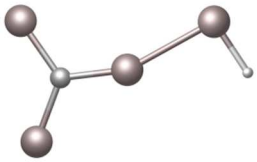
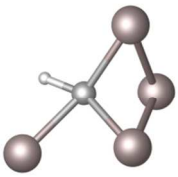
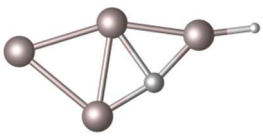
	E= -1006.477631 1 -1.635085 3.045000 0.003596 13 -1.820378 1.448680 0.000894 13 -2.387432 -1.078540 -0.001676 13 0.197765 -0.615444 0.000055 13 3.202031 0.461903 -0.002413 6 2.023212 -0.976798 0.006204
	E= -1006.475340 13 3.869782 -0.759057 -0.000324 13 1.635697 0.948292 0.000299 1 1.691945 2.551473 0.000477 13 -0.832875 0.114969 0.000296 6 -2.248461 -1.049120 0.001471 13 -3.765002 -0.016261 -0.000986
	E= -1006.472335 13 -1.122582 -3.821191 0.000000 13 -1.485441 -1.133348 0.000000 1 -0.079444 -2.246895 0.000000 13 0.000000 1.055395 0.000000 6 0.532780 2.808527 0.000000 13 2.368236 2.775739 0.000000
	E= -1006.471348 13 2.790377 2.038003 0.000000 6 1.051694 2.620844 0.000000 13 0.000000 1.120219 0.000000 1 -3.246136 -0.170449 0.000000 13 -1.768076 -0.794913 0.000000 13 -1.257995 -3.559818 0.000000
	E= -1006.471180 13 0.779114 -4.014857 0.000000 13 -0.596131 -1.675183 0.000000 1 1.129432 -2.160788 0.000000 13 0.000000 0.905076 0.000000 13 -0.623926 3.765567 0.000000 6 0.767139 2.568827 0.000000

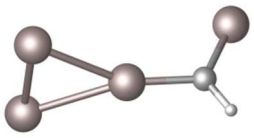
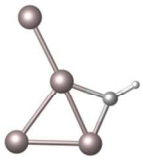
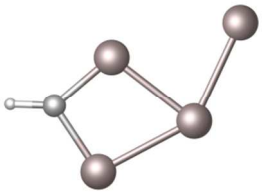
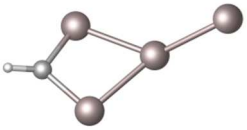
	E= -1006.470487 1 -4.288650 -2.097257 0.000000 13 -3.940878 -0.529280 0.000000 13 -1.461898 0.258140 0.000000 6 0.000000 1.314872 0.000000 13 1.542993 0.355287 0.000000 13 4.189680 -0.529684 0.000000
	E= -1006.469666 13 4.096508 -0.681380 0.005250 13 1.498423 0.329720 -0.005846 6 0.056753 1.429322 -0.014248 13 -1.480772 0.488238 0.011221 13 -3.745224 -0.795862 -0.011894 1 -5.136681 -0.005240 0.102000
	E= -1006.468433 13 3.835949 0.122700 0.032710 6 1.882029 -0.063687 0.015221 13 -0.001518 -0.139645 -0.149396 1 -0.804838 -1.252466 1.019555 13 -2.259289 -1.250348 -0.011458 13 -2.381859 1.393031 0.042693
	E= -1006.464911 13 -3.838826 -0.941267 0.000000 13 -1.528842 0.437071 0.000000 1 -3.230228 0.864288 0.000000 6 0.000000 1.420320 0.000000 13 1.496869 0.377085 0.000000 13 4.119279 -0.594905 0.000000
	E=-1006.465952 13 -2.949431 0.020644 -0.406115 6 -1.894379 -0.062522 1.127881 1 -1.425209 0.065726 -1.308913 13 -0.312746 -0.019084 0.133547 13 2.107181 1.262266 -0.052979 13 2.138957 -1.240026 -0.094328

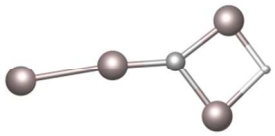
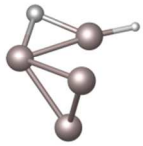
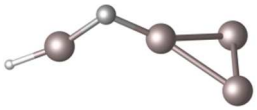
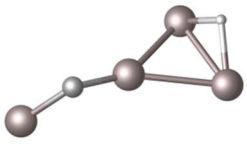
8. Structures, total energies and Cartesian coordinates of 32 isomers of CAl_4H^- at the level of CBS-QB3 with zero-point energy correction.

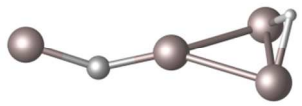
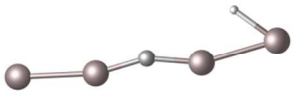
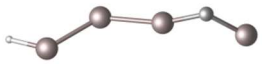
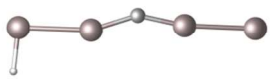
	E=- -1006.680631 13 1.337472 -1.383936 -0.000066 13 1.347142 1.375327 -0.000262 6 -0.078640 0.000600 -0.000074 13 -1.416057 1.450109 0.000263 13 -1.424932 -1.441075 0.000084 1 2.504713 -0.009125 0.000197
	E= -1006.676447 1 0.849157 2.933799 0.001444 13 -0.333207 1.832983 0.000413 6 0.150412 -0.032606 -0.000555 13 -1.934398 -0.147647 -0.000442 13 0.046535 -2.005785 0.000556 13 2.086329 0.109821 -0.000383
	E= -1006.660326 1 -1.389650 -0.000782 0.000000 6 -0.268074 -0.000124 0.000000 13 0.057656 -1.436448 1.436652 13 0.057656 1.436506 1.436279 13 0.057656 -1.436448 -1.436652 13 0.057656 1.436506 -1.436279
	E= -1006.647914 1 3.531871 -0.005781 1.376546 13 2.454510 -0.003082 0.131133 13 0.238981 -1.514065 -0.210489 13 0.244110 1.516787 -0.209221 6 -0.919767 0.003424 -0.099592 13 -2.784775 -0.000775 0.228655

	E= -1006.645228 13 -2.420224 0.000083 0.584545 13 -0.287478 1.467935 -0.426157 13 -0.287605 -1.467876 -0.426177 6 0.897193 0.000053 -0.127836 13 2.710214 -0.000062 0.403409 1 -1.676947 -0.001364 -0.996053
	E= -1006.641318 6 -2.134281 -0.005904 -0.000371 13 -0.793408 -1.146397 -0.679067 13 -0.802347 1.144806 0.678886 13 1.417483 -1.050525 0.738863 13 1.411256 1.055619 -0.738411 1 -3.223115 -0.010114 -0.001288
	E=-1006.640901 1 -2.700762 -0.457785 0.000000 13 -1.087925 -0.484355 0.000000 13 -0.788247 2.837966 0.000000 13 0.629466 -2.755131 0.000000 13 1.454457 -0.079274 0.000000 6 0.000000 1.118017 0.000000
	E= -1006.640088 13 -2.713798 -0.303112 0.000020 6 -0.952323 0.806552 -0.000027 13 -0.193888 -1.009514 -0.000028 13 0.861073 1.472813 -0.000006 13 2.616308 -0.657541 0.000020 1 -1.692108 1.626288 0.000085
	E= -1006.638967 1 -1.986324 0.767541 0.000000 13 -2.060351 2.539712 0.000000 13 0.000000 0.904870 0.000000 13 2.598607 -1.052630 0.000000

	6 0.721978 -0.822317 0.000000 13 -0.718682 -2.071462 0.000000
	E= -1006.637299 13 2.093996 0.000992 -0.002689 13 -0.380536 1.434209 -0.615833 13 -0.378819 -1.251154 -0.933135 6 -1.628888 -0.001091 0.002762 1 -2.720862 -0.001916 0.005452 13 -0.373550 -0.183396 1.549963
	E= -1006.635687 6 0.500520 -0.976291 0.000000 13 -0.886468 -2.277307 0.000000 13 2.354101 -1.389864 0.000000 13 0.000000 0.816366 0.000000 13 -1.665845 2.986422 0.000000 1 -0.426369 4.094721 0.000000
	E= -1006.634628 13 1.404520 -1.346530 -0.227028 13 1.403978 1.347347 -0.224390 13 -0.473414 -0.001839 1.418206 6 -0.155127 0.000758 -0.641689 1 -0.445970 0.001928 -1.717457 13 -2.229181 0.000524 -0.538512
	E= -1006.631816 1 4.034234 0.627523 0.000000 13 2.435232 0.521978 0.000000 13 0.000000 1.014991 0.000000 6 1.083065 -0.748885 0.000000 13 -0.574813 -1.604876 0.000000 13 -2.670621 0.365275 0.000000

	E= -1006.618685 13 3.146686 0.000190 -0.611058 6 1.924160 -0.000330 0.828722 1 2.198845 -0.000638 1.890913 13 0.093693 -0.000178 0.466270 13 -2.148889 -1.219257 -0.191764 13 -2.148705 1.219446 -0.191391
	E= -1006.603111 1 2.673965 1.239249 0.000000 6 1.916831 0.455918 0.000000 13 1.678399 -1.403014 0.000000 13 0.000000 0.605742 0.000000 13 -1.787491 2.569839 0.000000 13 -0.981289 -2.078318 0.000000
	E= -1006.602450 13 2.891339 -0.278592 0.000000 13 0.375270 -1.270996 0.000000 13 0.000000 1.285828 0.000000 6 -1.863013 1.389389 0.000000 1 -2.624854 2.168985 0.000000 13 -2.204845 -0.544341 0.000000
	E= -1006.600493 1 -3.264879 0.004026 1.239849 6 -2.431709 0.002563 0.533742 13 -1.364971 -1.460101 -0.065628 13 -1.360593 1.461092 -0.067395 13 0.761624 -0.002768 -0.553474 13 3.337412 0.000285 0.344781

	E= -1006.593055 1 1.052188 3.156103 0.000000 13 -0.626257 2.608956 0.000000 6 0.000000 0.771484 0.000000 13 1.896053 1.397764 0.000000 13 -0.464814 -0.981029 0.000000 13 -0.885919 -3.624537 0.000000
	E= -1006.583795 1 -1.500282 2.645771 -0.001676 13 -1.214963 1.072768 -0.000777 13 1.409160 0.150678 -1.318732 13 -0.475338 -1.324173 -0.000447 6 -2.187407 -0.549573 -0.000457 13 1.406119 0.150854 1.320296
	E= -1006.572962 6 -1.899007 -0.000702 1.009978 13 -2.989595 0.000214 -0.411227 1 -4.287753 0.000912 -1.347225 13 -0.153785 -0.000273 0.384129 13 2.174672 1.210770 -0.167431 13 2.175000 -1.210457 -0.167982
	E= -1006.572515 1 2.654677 0.042699 0.942856 13 2.226225 -1.218595 -0.248504 13 2.037730 1.377567 -0.074178 13 -0.227988 -0.140815 0.275517 6 -1.959664 -0.325285 0.771620 13 -3.335713 0.128690 -0.381495

	E= -1006.569560 1 2.676902 0.000199 1.094061 13 2.236798 1.326670 -0.009461 13 2.237162 -1.326476 -0.009376 13 -0.144077 -0.000131 -0.009669 6 -1.891598 -0.000367 -0.475108 13 -3.662754 0.000091 0.163628
	E= -1006.566719 1 0.555639 -3.027417 0.000000 13 1.924102 -1.873485 0.000000 13 -1.131211 -2.427893 0.000000 13 0.000000 0.034371 0.000000 6 -0.323285 1.808843 0.000000 13 -0.686424 3.665035 0.000000
	E= -1006.551277 13 4.142841 0.353573 0.093650 13 1.691960 -0.444246 -0.314332 1 2.456415 0.971239 0.520926 13 -0.828013 -0.177807 0.108796 6 -2.545475 -0.388816 0.623040 13 -4.020909 0.373222 -0.215743
	E= -1006.543564 1 -5.298560 -0.003323 -0.168367 13 -3.812674 -0.665668 0.015955 13 -1.692283 0.816241 -0.171943 13 0.762290 0.154836 0.151024 6 2.483997 0.077390 0.692318 13 4.003788 -0.340871 -0.301616
	E= -1006.541796 13 -4.299708 -0.910762 0.000000 13 -1.604809 -0.439733 0.000000 1 -4.134188 -2.565675 0.000000 6 0.000000 0.465835 0.000000

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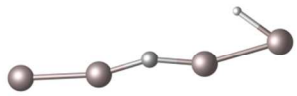
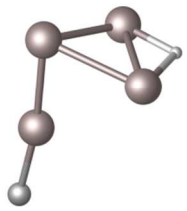
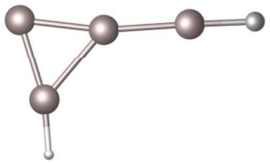
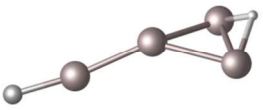
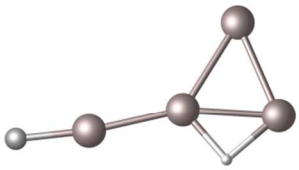
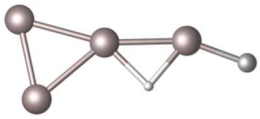
	E= -1006.541235 13 4.036571 -1.626467 0.000000 13 1.498414 -0.939062 0.000000 1 3.356494 -0.005077 0.000000 6 0.000000 0.149369 0.000000 13 -1.737650 0.609816 0.000000 13 -4.055527 1.887164 0.000000
	E= -1006.464416 6 -3.359753 0.602825 0.000000 13 -1.450567 0.717058 0.000000 13 0.968542 1.229008 0.000000 13 0.968542 -1.033326 1.440240 13 0.968542 -1.033326 -1.440240 1 1.242756 -2.049330 0.000000
	E= -1006.462954 6 4.427296 0.072418 0.000000 13 2.523243 0.240308 0.000000 13 0.000000 0.399467 0.000000 13 -2.420140 1.002645 0.000000 13 -1.988352 -1.440484 0.000000 1 -2.055539 -3.059663 0.000000
	E= -1006.456835 6 -4.364845 0.000526 -0.184625 13 -2.465504 -0.000340 -0.080857 13 -0.035919 0.000001 0.441876 13 2.141852 1.368573 -0.158013 1 3.019559 0.000010 0.523137 13 2.141841 -1.368478 -0.158036

	E= -1006.455153 6 -4.356054 0.285086 -0.000094 13 -2.483542 -0.079931 0.000010 1 0.681179 -1.889701 0.000070 13 0.010323 -0.270632 0.000030 13 2.338043 -1.169276 0.000006 13 2.093264 1.533623 -0.000008
	E= -1006.449874 6 4.253248 -0.190871 0.000000 13 2.445874 0.424187 0.000000 13 0.000000 0.297042 0.000000 1 1.338686 -0.980910 0.000000 13 -2.544953 0.916467 0.000000 13 -1.966935 -1.474147 0.000000