

Supporting Information for

# Synthesis of an Arylbromosilylene–Platinum Complex by using a 1,2–Dibromodisilene as a Silylene Source

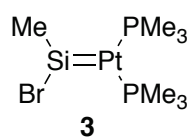
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*Cartesian coordinate table of the optimized geometry of 3.*



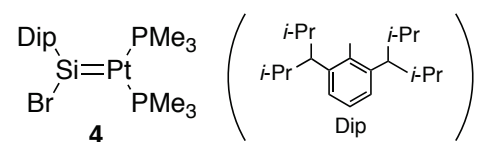
| Symbol | X         | Y         | Z         |
|--------|-----------|-----------|-----------|
| Pt     | 0.338477  | −0.000023 | 0.14767   |
| Si     | −1.813539 | −0.000281 | 0.678852  |
| Br     | −3.575425 | −0.00011  | −0.790101 |
| C      | −2.753382 | −0.000137 | 2.328524  |
| H      | −3.397904 | 0.883643  | 2.413341  |
| H      | −3.397844 | −0.88394  | 2.41351   |
| H      | −2.038799 | −0.000026 | 3.159721  |
| P      | 1.530282  | −1.974311 | −0.124336 |
| P      | 1.529931  | 1.974509  | −0.1243   |
| C      | 1.490483  | −3.077731 | 1.353355  |
| H      | 0.448595  | −3.289864 | 1.609547  |
| H      | 2.022966  | −4.019594 | 1.173155  |
| H      | 1.948346  | −2.563349 | 2.204078  |
| C      | 0.86034   | −3.067827 | −1.449445 |
| H      | 1.414746  | −4.012027 | −1.515493 |
| H      | −0.193698 | −3.273368 | −1.242988 |
| H      | 0.917752  | −2.54942  | −2.411652 |
| C      | 3.335788  | −2.002704 | −0.531874 |
| H      | 3.719051  | −3.026372 | −0.627639 |
| H      | 3.503439  | −1.471214 | −1.47406  |
| H      | 3.895927  | −1.485831 | 0.253698  |
| C      | 3.335486  | 2.003289  | −0.53159  |
| H      | 3.503394  | 1.471746  | −1.4737   |
| H      | 3.718539  | 3.027034  | −0.627393 |
| H      | 3.895621  | 1.486618  | 0.254116  |
| C      | 1.489696  | 3.077995  | 1.353326  |
| H      | 2.022033  | 4.019949  | 1.173166  |
| H      | 0.447728  | 3.289946  | 1.609346  |
| H      | 1.94752   | 2.563734  | 2.204144  |
| C      | 0.859932  | 3.067826  | −1.449545 |
| H      | −0.19418  | 3.273139  | −1.243242 |
| H      | 1.414134  | 4.01215   | −1.515556 |

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|---|----------|----------|-----------|
| H | 0.917593 | 2.549393 | -2.411723 |
|---|----------|----------|-----------|

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Cartesian coordinate table of the optimized geometry of **4**.



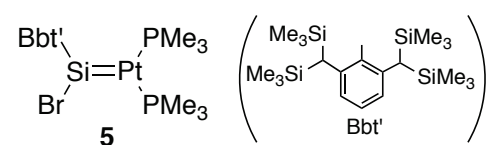
| Symbol | X         | Y         | Z         |
|--------|-----------|-----------|-----------|
| Pt     | −1.364684 | −0.01044  | −0.001719 |
| Si     | 0.790764  | −0.023254 | 0.515396  |
| Br     | 1.548007  | −0.027155 | 2.643178  |
| P      | −2.582388 | −1.951875 | −0.315943 |
| P      | −2.536017 | 1.961482  | −0.272165 |
| C      | 2.419241  | 0.00432   | −0.453812 |
| C      | 3.038562  | −1.206657 | −0.840044 |
| C      | 3.001992  | 1.235896  | −0.830014 |
| C      | 4.211192  | −1.171506 | −1.600631 |
| C      | 4.174912  | 1.241893  | −1.59122  |
| C      | 4.774333  | 0.045606  | −1.977444 |
| H      | 4.693684  | −2.097911 | −1.896006 |
| H      | 4.628597  | 2.185191  | −1.879125 |
| H      | 5.685515  | 0.061622  | −2.567409 |
| C      | 2.393959  | 2.554595  | −0.365422 |
| C      | 2.160403  | 3.533408  | −1.531642 |
| C      | 3.275201  | 3.189003  | 0.729818  |
| H      | 1.409362  | 2.330756  | 0.07942   |
| H      | 1.522438  | 3.076189  | −2.296851 |
| H      | 1.677775  | 4.448722  | −1.166239 |
| H      | 3.111288  | 3.816266  | −1.998524 |
| H      | 3.373839  | 2.503421  | 1.578586  |
| H      | 4.275211  | 3.401347  | 0.332766  |
| H      | 2.832303  | 4.129004  | 1.083231  |
| C      | 2.47105   | −2.543827 | −0.377062 |
| C      | 3.336444  | −3.114943 | 0.765357  |
| C      | 2.332729  | −3.558833 | −1.527256 |
| H      | 1.458944  | −2.356187 | 0.022077  |
| H      | 3.365175  | −2.41323  | 1.606008  |
| H      | 2.928208  | −4.071533 | 1.116118  |
| H      | 4.361215  | −3.279936 | 0.411194  |
| H      | 1.72355   | −3.145305 | −2.339104 |

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|---|-----------|-----------|-----------|
| H | 3.316319  | −3.824294 | −1.932497 |
| H | 1.861023  | −4.47974  | −1.16161  |
| C | −2.113616 | 3.303131  | 0.914501  |
| H | −2.67348  | 4.22411   | 0.702864  |
| H | −2.336914 | 2.967681  | 1.934198  |
| H | −1.038115 | 3.501362  | 0.853258  |
| C | −2.530619 | −3.111493 | 1.111207  |
| H | −1.484843 | −3.343878 | 1.339964  |
| H | −2.967538 | −2.623324 | 1.990277  |
| H | −3.078729 | −4.039509 | 0.90077   |
| C | −1.972408 | −3.012232 | −1.690124 |
| H | −0.916662 | −3.245595 | −1.515889 |
| H | −2.548723 | −3.943892 | −1.767928 |
| H | −2.046737 | −2.460304 | −2.634575 |
| C | −4.393309 | −1.939737 | −0.67792  |
| H | −4.791565 | −2.956234 | −0.800062 |
| H | −4.922348 | −1.442663 | 0.143763  |
| H | −4.573218 | −1.370245 | −1.597887 |
| C | −4.379255 | 2.021734  | −0.191704 |
| H | −4.759426 | 3.041953  | −0.338763 |
| H | −4.799789 | 1.365254  | −0.962128 |
| H | −4.706994 | 1.654746  | 0.788567  |
| C | −2.225756 | 2.782559  | −1.88914  |
| H | −2.561951 | 2.127012  | −2.700855 |
| H | −2.749153 | 3.74539   | −1.958949 |
| H | −1.148133 | 2.942423  | −2.004432 |

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Cartesian coordinate table of the optimized geometry of **5**.



| Symbol | X         | Y         | Z         |
|--------|-----------|-----------|-----------|
| Pt     | −0.041395 | 2.187372  | −0.02026  |
| Br     | 0.003999  | −0.453968 | −2.750371 |
| P      | −1.994745 | 3.451376  | 0.035996  |
| P      | 1.857602  | 3.533605  | 0.028886  |
| Si     | 0.000993  | 0.009956  | −0.479454 |
| Si     | −3.554104 | −2.676527 | −1.128297 |
| Si     | 3.460441  | −1.250054 | 1.897048  |
| Si     | 3.655812  | −2.539171 | −1.129066 |
| Si     | −3.405745 | −1.376548 | 1.896102  |
| C      | 4.984508  | −0.177245 | 1.544958  |
| H      | 5.767196  | −0.733521 | 1.016305  |
| H      | 5.418714  | 0.181679  | 2.48671   |
| H      | 4.737073  | 0.702414  | 0.939463  |
| C      | −2.526713 | −1.79841  | 0.24422   |
| H      | −2.360552 | −0.78989  | −0.181164 |
| C      | −1.13221  | −3.742746 | 1.014014  |
| H      | −2.060424 | −4.276378 | 1.201841  |
| C      | 1.275433  | −2.390548 | 0.505272  |
| C      | 2.549587  | −3.515133 | −2.304959 |
| H      | 2.052539  | −4.348947 | −1.79747  |
| H      | 3.143724  | −3.927251 | −3.130629 |
| H      | 1.769911  | −2.875179 | −2.732572 |
| C      | −1.18051  | −2.436574 | 0.504479  |
| C      | 2.596661  | −1.701844 | 0.245077  |
| H      | 2.392073  | −0.699971 | −0.178734 |
| C      | 0.035119  | −1.755679 | 0.242851  |
| C      | −2.412216 | −3.608717 | −2.30566  |
| H      | −1.882652 | −4.422717 | −1.798931 |
| H      | −1.658527 | −2.938678 | −2.73367  |
| H      | −2.990634 | −4.043354 | −3.130947 |
| C      | 0.083845  | −4.368096 | 1.262505  |
| C      | −4.476383 | −1.342574 | −2.105759 |

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|   |           |           |           |
|---|-----------|-----------|-----------|
| H | −5.153692 | −0.754425 | −1.476031 |
| H | −5.078179 | −1.797704 | −2.902327 |
| H | −3.767849 | −0.653232 | −2.58049  |
| C | 4.019128  | −2.73527  | 2.930844  |
| H | 4.725325  | −3.386415 | 2.405572  |
| H | 3.16763   | −3.344328 | 3.252854  |
| H | 4.518885  | −2.36804  | 3.836823  |
| C | 1.275832  | −3.69772  | 1.014931  |
| H | 2.223166  | −4.196542 | 1.203121  |
| C | 2.231013  | −0.267533 | 2.945663  |
| H | 1.425022  | −0.919146 | 3.301924  |
| H | 1.760048  | 0.541799  | 2.374155  |
| H | 2.720348  | 0.168619  | 3.825893  |
| C | 4.977984  | −3.719766 | −0.454346 |
| H | 5.715739  | −3.212402 | 0.177562  |
| H | 5.521151  | −4.170349 | −1.295023 |
| H | 4.543112  | −4.54047  | 0.127705  |
| C | 4.524327  | −1.17024  | −2.107232 |
| H | 5.179583  | −0.557177 | −1.477995 |
| H | 3.789318  | −0.507994 | −2.580323 |
| H | 5.141792  | −1.601385 | −2.905121 |
| C | −4.828555 | −3.907411 | −0.451451 |
| H | −4.361712 | −4.709867 | 0.131289  |
| H | −5.354249 | −4.379573 | −1.291407 |
| H | −5.585018 | −3.428367 | 0.180437  |
| C | −4.968431 | −0.360605 | 1.54368   |
| H | −4.754808 | 0.526439  | 0.936111  |
| H | −5.414713 | −0.015962 | 2.485144  |
| H | −5.730538 | −0.946721 | 1.017104  |
| C | −3.909984 | −2.879814 | 2.931902  |
| H | −4.421539 | −2.529562 | 3.838009  |
| H | −3.036937 | −3.457761 | 3.253519  |
| H | −4.593171 | −3.556183 | 2.408126  |
| C | −2.211264 | −0.349286 | 2.941941  |
| H | −1.76794  | 0.473746  | 2.367732  |
| H | −1.383373 | −0.971931 | 3.299865  |
| H | −2.714898 | 0.072516  | 3.821079  |

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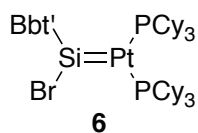
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|   |           |           |           |
|---|-----------|-----------|-----------|
| H | 0.102724  | −5.385656 | 1.646507  |
| C | 3.174495  | 2.992489  | −1.142109 |
| H | 3.481008  | 1.973041  | −0.893377 |
| H | 2.764     | 2.975569  | −2.156503 |
| H | 4.047235  | 3.656622  | −1.114211 |
| C | 2.763242  | 3.621831  | 1.633525  |
| H | 3.039457  | 2.614677  | 1.955425  |
| H | 3.667685  | 4.23614   | 1.548671  |
| H | 2.108202  | 4.051993  | 2.397765  |
| C | 1.754891  | 5.330929  | −0.401188 |
| H | 1.29992   | 5.445614  | −1.389924 |
| H | 1.124494  | 5.851058  | 0.326776  |
| H | 2.746526  | 5.80035   | −0.40985  |
| C | −1.969791 | 5.253996  | −0.384112 |
| H | −1.361217 | 5.796294  | 0.346358  |
| H | −1.522127 | 5.394674  | −1.372837 |
| H | −2.980794 | 5.67987   | −0.388216 |
| C | −3.288046 | 2.861828  | −1.138053 |
| H | −2.877607 | 2.86899   | −2.152578 |
| H | −3.551079 | 1.828862  | −0.896293 |
| H | −4.188286 | 3.487997  | −1.105833 |
| C | −2.902685 | 3.493671  | 1.641736  |
| H | −2.26629  | 3.948981  | 2.407127  |
| H | −3.832582 | 4.069185  | 1.559454  |
| H | −3.135454 | 2.474669  | 1.961034  |

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*Cartesian coordinate table of the optimized geometry of 6.*



| Symbol | X         | Y         | Z         |
|--------|-----------|-----------|-----------|
| Pt     | 0.863483  | −0.053685 | 0.019511  |
| Si     | −1.324569 | 0.257779  | −0.367636 |
| Br     | −1.667577 | −0.099447 | −2.655645 |
| P      | 2.543415  | 1.344989  | −0.931565 |
| C      | 3.624529  | 0.392813  | −2.154743 |
| H      | 4.168369  | −0.291024 | −1.485367 |
| C      | 2.792911  | −0.497824 | −3.097301 |
| H      | 2.089363  | −1.098171 | −2.507981 |
| H      | 2.175725  | 0.119732  | −3.757504 |
| C      | 3.685673  | −1.39629  | −3.961394 |
| H      | 3.061037  | −1.979356 | −4.650459 |
| H      | 4.208932  | −2.12363  | −3.323756 |
| C      | 4.725321  | −0.585982 | −4.73698  |
| H      | 5.372173  | −1.252274 | −5.322357 |
| H      | 4.213588  | 0.067991  | −5.458893 |
| C      | 5.564098  | 0.271096  | −3.787547 |
| H      | 6.289917  | 0.872803  | −4.350384 |
| H      | 6.148601  | −0.385506 | −3.125733 |
| C      | 4.678174  | 1.192313  | −2.937914 |
| H      | 4.180538  | 1.905629  | −3.606705 |
| H      | 5.303573  | 1.782563  | −2.256564 |
| C      | 3.794296  | 2.085886  | 0.264614  |
| H      | 4.44993   | 2.756177  | −0.31008  |
| C      | 4.678223  | 1.030027  | 0.937992  |
| H      | 4.025592  | 0.332064  | 1.478973  |
| H      | 5.22858   | 0.44312   | 0.193224  |
| C      | 5.676754  | 1.66214   | 1.91407   |
| H      | 6.277902  | 0.875714  | 2.389445  |
| H      | 6.38063   | 2.294547  | 1.352415  |
| C      | 4.970571  | 2.507648  | 2.973998  |
| H      | 4.362005  | 1.851109  | 3.613168  |
| H      | 5.705227  | 2.991447  | 3.630602  |

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|---|-----------|-----------|-----------|
| C | 4.064643  | 3.55397   | 2.323431  |
| H | 4.684573  | 4.287611  | 1.785909  |
| H | 3.514524  | 4.113649  | 3.090773  |
| C | 3.075441  | 2.912365  | 1.344061  |
| H | 2.449668  | 3.689617  | 0.889719  |
| H | 2.390373  | 2.249134  | 1.889436  |
| C | 1.911323  | 2.897548  | −1.833799 |
| H | 1.097797  | 3.227641  | −1.172011 |
| C | 1.273244  | 2.55268   | −3.191514 |
| H | 2.048087  | 2.170716  | −3.867865 |
| H | 0.53167   | 1.755252  | −3.067765 |
| C | 0.632255  | 3.770826  | −3.86602  |
| H | 0.233184  | 3.472913  | −4.844252 |
| H | −0.224848 | 4.11364   | −3.273691 |
| C | 1.628019  | 4.919541  | −4.018115 |
| H | 2.431903  | 4.622234  | −4.708861 |
| H | 1.140052  | 5.795197  | −4.465712 |
| C | 2.233522  | 5.282122  | −2.663086 |
| H | 1.441699  | 5.670069  | −2.005503 |
| H | 2.971587  | 6.088098  | −2.771348 |
| C | 2.896486  | 4.07205   | −1.991478 |
| H | 3.291828  | 4.386629  | −1.019936 |
| H | 3.759434  | 3.762476  | −2.594177 |
| P | 1.634584  | −2.091243 | 1.004563  |
| C | 3.4556    | −2.645175 | 0.938149  |
| H | 3.982489  | −1.696298 | 1.110948  |
| C | 3.967328  | −3.637869 | 1.999559  |
| H | 3.732399  | −3.29374  | 3.011835  |
| H | 3.474238  | −4.610482 | 1.877302  |
| C | 5.48763   | −3.825212 | 1.890005  |
| H | 5.983527  | −2.873003 | 2.131927  |
| H | 5.824227  | −4.5503   | 2.642682  |
| C | 5.913464  | −4.271429 | 0.491171  |
| H | 5.51345   | −5.277276 | 0.293874  |
| H | 7.006468  | −4.352363 | 0.431124  |
| C | 5.387145  | −3.305601 | −0.570985 |
| H | 5.647505  | −3.663276 | −1.575959 |

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|---|-----------|-----------|-----------|
| H | 5.877467  | −2.327809 | −0.45012  |
| C | 3.868923  | −3.131186 | −0.458128 |
| H | 3.393823  | −4.099615 | −0.664212 |
| H | 3.5073    | −2.436072 | −1.222191 |
| C | 0.591812  | −3.510915 | 0.347583  |
| H | −0.405586 | −3.209319 | 0.699721  |
| C | 0.870981  | −4.919842 | 0.890565  |
| H | 1.860511  | −5.259186 | 0.556175  |
| H | 0.891729  | −4.919582 | 1.987798  |
| C | −0.181248 | −5.919297 | 0.391812  |
| H | 0.050582  | −6.923048 | 0.771951  |
| H | −1.163087 | −5.647248 | 0.806425  |
| C | −0.263346 | −5.931774 | −1.136076 |
| H | −1.044947 | −6.626939 | −1.468962 |
| H | 0.685691  | −6.309993 | −1.54595  |
| C | −0.526575 | −4.528675 | −1.685454 |
| H | −0.536129 | −4.540788 | −2.782815 |
| H | −1.526473 | −4.196964 | −1.371177 |
| C | 0.510656  | −3.517246 | −1.189217 |
| H | 0.257555  | −2.510585 | −1.544217 |
| H | 1.486972  | −3.77381  | −1.618871 |
| C | 1.330793  | −2.132807 | 2.857126  |
| H | 1.679219  | −3.112997 | 3.213947  |
| C | 2.152793  | −1.040833 | 3.563614  |
| H | 3.218662  | −1.127927 | 3.318386  |
| H | 1.827291  | −0.061584 | 3.183683  |
| C | 1.972734  | −1.093303 | 5.084969  |
| H | 2.384504  | −2.040686 | 5.465326  |
| H | 2.554759  | −0.290039 | 5.555764  |
| C | 0.499338  | −0.985996 | 5.477461  |
| H | 0.127261  | 0.011977  | 5.20674   |
| H | 0.385334  | −1.079415 | 6.565382  |
| C | −0.338075 | −2.045852 | 4.761158  |
| H | −1.401227 | −1.918324 | 5.001634  |
| H | −0.053519 | −3.04317  | 5.130327  |
| C | −0.147442 | −1.99966  | 3.240054  |
| H | −0.740444 | −2.799451 | 2.785059  |

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|----|-----------|-----------|-----------|
| H  | −0.534766 | −1.055615 | 2.833491  |
| C  | −3.110327 | 0.703768  | 0.23665   |
| C  | −4.286516 | −0.057596 | −0.065507 |
| C  | −5.535388 | 0.41025   | 0.375629  |
| H  | −6.424995 | −0.157346 | 0.118323  |
| C  | −5.663404 | 1.563192  | 1.134292  |
| C  | −4.527031 | 2.277723  | 1.47562   |
| H  | −4.617081 | 3.17308   | 2.084959  |
| C  | −3.253769 | 1.877009  | 1.040425  |
| C  | −4.317918 | −1.374013 | −0.813562 |
| H  | −3.307254 | −1.643778 | −1.14958  |
| C  | −2.100675 | 2.766864  | 1.456529  |
| H  | −1.146756 | 2.323498  | 1.119338  |
| Si | −5.324302 | −1.286458 | −2.463536 |
| C  | −5.370007 | 0.475141  | −3.144917 |
| H  | −5.900651 | 1.153843  | −2.468208 |
| H  | −5.890353 | 0.488949  | −4.111279 |
| H  | −4.36011  | 0.869243  | −3.294151 |
| C  | −4.517787 | −2.439011 | −3.730128 |
| H  | −4.553385 | −3.488825 | −3.418082 |
| H  | −3.468801 | −2.168957 | −3.892259 |
| H  | −5.037529 | −2.362632 | −4.693552 |
| C  | −7.133693 | −1.837324 | −2.277158 |
| H  | −7.232597 | −2.874532 | −1.938878 |
| H  | −7.622652 | −1.767167 | −3.257652 |
| H  | −7.703106 | −1.202301 | −1.588733 |
| Si | −4.78901  | −2.824335 | 0.354016  |
| C  | −3.503976 | −2.900659 | 1.736338  |
| H  | −3.495049 | −1.973441 | 2.319947  |
| H  | −2.498325 | −3.041558 | 1.326222  |
| H  | −3.708754 | −3.731882 | 2.42258   |
| C  | −4.740515 | −4.466822 | −0.591403 |
| H  | −5.546896 | −4.548761 | −1.328599 |
| H  | −4.85593  | −5.300587 | 0.112886  |
| H  | −3.791833 | −4.610956 | −1.120354 |
| C  | −6.480349 | −2.694162 | 1.195976  |
| H  | −7.315353 | −2.611633 | 0.493026  |

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|----|-----------|-----------|-----------|
| H  | −6.525754 | −1.842507 | 1.882765  |
| H  | −6.639349 | −3.603767 | 1.790154  |
| Si | −1.894815 | 2.874662  | 3.364597  |
| C  | −2.608994 | 1.326075  | 4.180636  |
| H  | −2.195692 | 0.415216  | 3.733947  |
| H  | −3.697637 | 1.279394  | 4.07136   |
| H  | −2.375112 | 1.314841  | 5.252585  |
| C  | −2.727818 | 4.375179  | 4.172866  |
| H  | −2.310816 | 5.326161  | 3.822274  |
| H  | −2.567511 | 4.328988  | 5.257894  |
| H  | −3.810599 | 4.399996  | 4.00582   |
| C  | −0.046484 | 2.973842  | 3.755314  |
| H  | 0.479603  | 2.102594  | 3.348593  |
| H  | 0.12133   | 2.994991  | 4.839329  |
| H  | 0.416265  | 3.870941  | 3.328874  |
| C  | −3.648854 | 5.54036   | 0.887835  |
| H  | −4.598442 | 5.067045  | 0.616371  |
| H  | −3.558185 | 6.454454  | 0.286119  |
| H  | −3.704283 | 5.843396  | 1.93796   |
| C  | −0.591614 | 5.41465   | 0.823429  |
| H  | −0.537983 | 5.760385  | 1.862541  |
| H  | −0.555428 | 6.303669  | 0.181372  |
| H  | 0.308986  | 4.822964  | 0.623857  |
| C  | −2.30292  | 4.001116  | −1.345122 |
| H  | −3.261505 | 3.516364  | −1.561698 |
| H  | −1.514402 | 3.311175  | −1.664752 |
| H  | −2.236271 | 4.90401   | −1.964794 |
| Si | −2.171691 | 4.422812  | 0.489948  |
| H  | −6.644566 | 1.896935  | 1.464627  |

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