Great Tables 2 in Python: Introducing Units Notation

2025-04-14

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# 1. Code Along: Reactions Table

This workshop (and future video), with presenters Michael Chow and Rich Iannone, is all about using [Great Tables](https://posit-dev.github.io/great-tables/articles/intro.html) to make beautiful tables for publication and display purposes. We believe that effective tables have these things in common:

1. structuring that aids in the reading of the table
2. well-formatted values, fitting expectations for the field of study
3. styling that reduces time to insight and improves aesthetics

## 1.1 About The Instructors

**Michael Chow, Senior Software Engineer, Posit**

Michael is a data scientist and software engineer. He has programmed in Python for well over a decade, and he obtained a PhD in cognitive psychology from Princeton University. His interests include statistical methods, skill acquisition, and human memory.

**Richard Iannone, Senior Software Engineer, Posit**

Richard is a software engineer and table enthusiast. He’s been vigorously working on making display tables easier to create/display in Python. And generally Rich enjoys creating open source packages so that people can great things in their own work.

## 1.2 Start

Setting up.

import polars as pl  
import polars.selectors as cs  
from great\_tables import GT, md  
from great\_tables.data import reactions  
  
print(reactions)

cmpd\_name cmpd\_mwt cmpd\_formula \  
0 methane 16.04 CH4   
1 formaldehyde 30.03 CH2O   
2 methanol 32.04 CH4O   
3 fluoromethane 34.03 CH3F   
4 formic acid 46.03 CH2O2   
... ... ... ...   
1678 gamma-heptalactone 128.17 C7H12O2   
1679 1,2-epoxyhexane 100.16 C6H12O   
1680 trans-2,3-epoxybutane 72.11 C4H8O   
1681 2-methyl-1-nitroprop-1-ene 101.10 C4H7NO2   
1682 4-methyl-4-nitro-1-pentene 129.16 C6H11NO2   
  
 cmpd\_type \  
0 normal alkane   
1 aldehyde   
2 alcohol or glycol   
3 haloalkane (separated)   
4 carboxylic acid   
... ...   
1678 ether   
1679 ether   
1680 ether   
1681 aromatic halogen-containing hydrocarbon (multi...   
1682 aromatic halogen-containing hydrocarbon (multi...   
  
 cmpd\_smiles \  
0 C   
1 C=O   
2 CO   
3 CF   
4 OC=O   
... ...   
1678 CCCC1CCC(=O)O1   
1679 CCCCC1CO1   
1680 C[C@H]1O[C@@H]1C   
1681 CC(=C[N+](=O)[O-])C   
1682 C=CCC([N+](=O)[O-])(C)C   
  
 cmpd\_inchi \  
0 InChI=1S/CH4/h1H4   
1 InChI=1S/CH2O/c1-2/h1H2   
2 InChI=1S/CH4O/c1-2/h2H,1H3   
3 InChI=1S/CH3F/c1-2/h1H3   
4 InChI=1S/CH2O2/c2-1-3/h1H,(H,2,3)   
... ...   
1678 InChI=1S/C7H12O2/c1-2-3-6-4-5-7(8)9-6/h6H,2-5H...   
1679 InChI=1S/C6H12O/c1-2-3-4-6-5-7-6/h6H,2-5H2,1H3   
1680 InChI=1S/C4H8O/c1-3-4(2)5-3/h3-4H,1-2H3/t3-,4-...   
1681 InChI=1S/C4H7NO2/c1-4(2)3-5(6)7/h3H,1-2H3   
1682 InChI=1S/C6H11NO2/c1-4-5-6(2,3)7(8)9/h4H,1,5H2...   
  
 cmpd\_inchikey OH\_k298 OH\_uncert OH\_u\_fac ... \  
0 VNWKTOKETHGBQD-UHFFFAOYSA-N 6.360000e-15 0.1 NaN ...   
1 WSFSSNUMVMOOMR-UHFFFAOYSA-N 8.500000e-12 0.2 NaN ...   
2 OKKJLVBELUTLKV-UHFFFAOYSA-N 8.780000e-13 0.1 NaN ...   
3 NBVXSUQYWXRMNV-UHFFFAOYSA-N 1.970000e-14 0.1 NaN ...   
4 BDAGIHXWWSANSR-UHFFFAOYSA-N 4.500000e-13 NaN 1.4 ...   
... ... ... ... ... ...   
1678 VLSVVMPLPMNWBH-UHFFFAOYSA-N 8.220000e-12 0.4 NaN ...   
1679 WHNBDXQTMPYBAT-UHFFFAOYSA-N 5.760000e-12 0.2 NaN ...   
1680 PQXKWPLDPFFDJP-QWWZWVQMSA-N 1.870000e-12 0.2 NaN ...   
1681 VXMMUDFDTWWSQT-UHFFFAOYSA-N NaN NaN NaN ...   
1682 SFRYSSACJAJJJI-UHFFFAOYSA-N NaN NaN NaN ...   
  
 NO3\_t\_low NO3\_t\_high Cl\_k298 Cl\_uncert Cl\_u\_fac Cl\_A \  
0 NaN NaN 1.000000e-13 0.15 NaN 6.600000e-12   
1 NaN NaN 7.200000e-11 0.15 NaN 8.100000e-11   
2 250.0 370.0 5.100000e-11 0.20 NaN 5.100000e-11   
3 NaN NaN 3.600000e-13 NaN 1.4 4.900000e-12   
4 NaN NaN 1.900000e-13 NaN 1.4 NaN   
... ... ... ... ... ... ...   
1678 NaN NaN 1.690000e-10 0.20 NaN NaN   
1679 NaN NaN 1.640000e-10 0.15 NaN NaN   
1680 NaN NaN 6.690000e-11 0.15 NaN NaN   
1681 NaN NaN NaN NaN NaN NaN   
1682 NaN NaN NaN NaN NaN NaN   
  
 Cl\_B Cl\_n Cl\_t\_low Cl\_t\_high   
0 1240.0 NaN 200.0 300.0   
1 34.0 NaN 200.0 500.0   
2 0.0 NaN 225.0 950.0   
3 781.0 NaN 200.0 300.0   
4 NaN NaN NaN NaN   
... ... ... ... ...   
1678 NaN NaN NaN NaN   
1679 NaN NaN NaN NaN   
1680 NaN NaN NaN NaN   
1681 NaN NaN NaN NaN   
1682 NaN NaN NaN NaN   
  
[1683 rows x 39 columns]

Transforming the data.

reactions\_mini = (  
 pl.from\_pandas(reactions)  
 .filter(pl.col("cmpd\_type") == "mercaptan")  
 .select([  
 "cmpd\_name",  
 "cmpd\_formula",  
 cs.ends\_with("k298")  
 ])  
 .with\_columns(  
 cmpd\_formula=pl.concat\_str(  
 "%" + pl.col("cmpd\_formula") + "%"  
 )  
 )  
)  
  
reactions\_mini

| cmpd\_name | cmpd\_formula | OH\_k298 | O3\_k298 | NO3\_k298 | Cl\_k298 |
| --- | --- | --- | --- | --- | --- |
| str | str | f64 | f64 | f64 | f64 |
| "methanethiol" | "%CH4S%" | 3.5000e-11 | null | 9.2000e-13 | 2.0000e-10 |
| "ethanethiol" | "%C2H6S%" | 4.5000e-11 | null | 1.2100e-12 | 1.7500e-10 |
| "propanethiol" | "%C3H8S%" | 5.3000e-11 | null | null | 2.1400e-10 |
| "2-propanethiol" | "%C3H8S%" | 3.9000e-11 | null | null | 2.7000e-10 |
| "1-butanethiol" | "%C4H10S%" | 5.6000e-11 | null | null | null |
| … | … | … | … | … | … |
| "2-butanethiol" | "%C4H10S%" | 3.8000e-11 | null | null | 1.6500e-10 |
| "t-butylsulfide" | "%C4H10S%" | 2.9000e-11 | null | null | null |
| "2-methylbutanethiol" | "%C5H12S%" | 5.2000e-11 | null | null | null |
| "n-pentanethiol" | "%C5H12S%" | null | null | null | 1.9700e-10 |
| "1,2-ethanedithiol" | "%C2H6S2%" | 3.8000e-11 | null | null | null |

Let’s get the data into Great Tables. Plus let’s make a stub.

gt\_tbl\_1 = GT(reactions\_mini, rowname\_col="cmpd\_name")   
  
gt\_tbl\_1

|  | cmpd\_formula | OH\_k298 | O3\_k298 | NO3\_k298 | Cl\_k298 |
| --- | --- | --- | --- | --- | --- |
| methanethiol | %CH4S% | 3.5e-11 | None | 9.2e-13 | 2e-10 |
| ethanethiol | %C2H6S% | 4.5e-11 | None | 1.21e-12 | 1.75e-10 |
| propanethiol | %C3H8S% | 5.3e-11 | None | None | 2.14e-10 |
| 2-propanethiol | %C3H8S% | 3.9e-11 | None | None | 2.7e-10 |
| 1-butanethiol | %C4H10S% | 5.6e-11 | None | None | None |
| 2-methyl-1-propanethiol | %C4H10S% | 4.6e-11 | None | None | None |
| 2-butanethiol | %C4H10S% | 3.8e-11 | None | None | 1.65e-10 |
| t-butylsulfide | %C4H10S% | 2.9e-11 | None | None | None |
| 2-methylbutanethiol | %C5H12S% | 5.2e-11 | None | None | None |
| n-pentanethiol | %C5H12S% | None | None | None | 1.97e-10 |
| 1,2-ethanedithiol | %C2H6S2% | 3.8e-11 | None | None | None |

## 1.3 Introducing Units Notation

Add a title to the table to explain the contents.

gt\_tbl\_2 = (  
 gt\_tbl\_1  
 .tab\_header(title=md("Gas-Phase reactions of selected \*\*mercaptan\*\* compounds"))  
)  
  
gt\_tbl\_2

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | cmpd\_formula | OH\_k298 | O3\_k298 | NO3\_k298 | Cl\_k298 |
| methanethiol | %CH4S% | 3.5e-11 | None | 9.2e-13 | 2e-10 |
| ethanethiol | %C2H6S% | 4.5e-11 | None | 1.21e-12 | 1.75e-10 |
| propanethiol | %C3H8S% | 5.3e-11 | None | None | 2.14e-10 |
| 2-propanethiol | %C3H8S% | 3.9e-11 | None | None | 2.7e-10 |
| 1-butanethiol | %C4H10S% | 5.6e-11 | None | None | None |
| 2-methyl-1-propanethiol | %C4H10S% | 4.6e-11 | None | None | None |
| 2-butanethiol | %C4H10S% | 3.8e-11 | None | None | 1.65e-10 |
| t-butylsulfide | %C4H10S% | 2.9e-11 | None | None | None |
| 2-methylbutanethiol | %C5H12S% | 5.2e-11 | None | None | None |
| n-pentanethiol | %C5H12S% | None | None | None | 1.97e-10 |
| 1,2-ethanedithiol | %C2H6S2% | 3.8e-11 | None | None | None |

Group numerical columns with a spanner. Use this for the label: "Reaction Rate Constant (298 K),<br>{{cm^3 molecules^–1 s^–1}}"

gt\_tbl\_3 = (  
 gt\_tbl\_2  
 .tab\_spanner(  
 label = "Reaction Rate Constant (298 K),<br>{{cm^3 molecules^–1 s^–1}}",  
 columns = cs.ends\_with("k298")  
 )  
)  
  
gt\_tbl\_3

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | cmpd\_formula | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | | |
| OH\_k298 | O3\_k298 | NO3\_k298 | Cl\_k298 |
| methanethiol | %CH4S% | 3.5e-11 | None | 9.2e-13 | 2e-10 |
| ethanethiol | %C2H6S% | 4.5e-11 | None | 1.21e-12 | 1.75e-10 |
| propanethiol | %C3H8S% | 5.3e-11 | None | None | 2.14e-10 |
| 2-propanethiol | %C3H8S% | 3.9e-11 | None | None | 2.7e-10 |
| 1-butanethiol | %C4H10S% | 5.6e-11 | None | None | None |
| 2-methyl-1-propanethiol | %C4H10S% | 4.6e-11 | None | None | None |
| 2-butanethiol | %C4H10S% | 3.8e-11 | None | None | 1.65e-10 |
| t-butylsulfide | %C4H10S% | 2.9e-11 | None | None | None |
| 2-methylbutanethiol | %C5H12S% | 5.2e-11 | None | None | None |
| n-pentanethiol | %C5H12S% | None | None | None | 1.97e-10 |
| 1,2-ethanedithiol | %C2H6S2% | 3.8e-11 | None | None | None |

Change Column labels for readability. The column names are: cmpd\_formula, OH\_k298, O3\_k298, NO3\_k298, and Cl\_k298.

gt\_tbl\_4 = (  
 gt\_tbl\_3  
 .cols\_label(  
 cmpd\_formula="",  
 OH\_k298= "OH",  
 O3\_k298 = "{{O\_3}}" ,  
 NO3\_k298 = "{{NO\_3}}",  
 Cl\_k298 = "Cl"  
 )  
)  
gt\_tbl\_4

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | | |
| OH | O3 | NO3 | Cl |
| methanethiol | %CH4S% | 3.5e-11 | None | 9.2e-13 | 2e-10 |
| ethanethiol | %C2H6S% | 4.5e-11 | None | 1.21e-12 | 1.75e-10 |
| propanethiol | %C3H8S% | 5.3e-11 | None | None | 2.14e-10 |
| 2-propanethiol | %C3H8S% | 3.9e-11 | None | None | 2.7e-10 |
| 1-butanethiol | %C4H10S% | 5.6e-11 | None | None | None |
| 2-methyl-1-propanethiol | %C4H10S% | 4.6e-11 | None | None | None |
| 2-butanethiol | %C4H10S% | 3.8e-11 | None | None | 1.65e-10 |
| t-butylsulfide | %C4H10S% | 2.9e-11 | None | None | None |
| 2-methylbutanethiol | %C5H12S% | 5.2e-11 | None | None | None |
| n-pentanethiol | %C5H12S% | None | None | None | 1.97e-10 |
| 1,2-ethanedithiol | %C2H6S2% | 3.8e-11 | None | None | None |

## 1.4 Formatting for Science with fmt\_units() and fmt\_scientific()

Format the chemical formulas to make them look better.

gt\_tbl\_5 = (  
 gt\_tbl\_4  
 .fmt\_units(columns= "cmpd\_formula")  
)  
  
gt\_tbl\_5

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | | |
| OH | O3 | NO3 | Cl |
| methanethiol | CH4S | 3.5e-11 | None | 9.2e-13 | 2e-10 |
| ethanethiol | C2H6S | 4.5e-11 | None | 1.21e-12 | 1.75e-10 |
| propanethiol | C3H8S | 5.3e-11 | None | None | 2.14e-10 |
| 2-propanethiol | C3H8S | 3.9e-11 | None | None | 2.7e-10 |
| 1-butanethiol | C4H10S | 5.6e-11 | None | None | None |
| 2-methyl-1-propanethiol | C4H10S | 4.6e-11 | None | None | None |
| 2-butanethiol | C4H10S | 3.8e-11 | None | None | 1.65e-10 |
| t-butylsulfide | C4H10S | 2.9e-11 | None | None | None |
| 2-methylbutanethiol | C5H12S | 5.2e-11 | None | None | None |
| n-pentanethiol | C5H12S | None | None | None | 1.97e-10 |
| 1,2-ethanedithiol | C2H6S2 | 3.8e-11 | None | None | None |

Format the numeric values.

gt\_tbl\_6 = (  
 gt\_tbl\_5  
 .fmt\_scientific(columns=cs.ends\_with("k298"))  
)  
  
gt\_tbl\_6

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | | |
| OH | O3 | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | None | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | None | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | None | None | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | None | None | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | None | None | None |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | None | None | None |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | None | None | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | None | None | None |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | None | None | None |
| n-pentanethiol | C5H12S | None | None | None | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | None | None | None |

Replace the None values.

gt\_tbl\_7 = (  
 gt\_tbl\_6  
 .sub\_missing(columns=cs.ends\_with("k298"))  
)  
  
gt\_tbl\_7

| Gas-Phase reactions of selected **mercaptan** compounds | | | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | | |
| OH | O3 | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | — | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | — | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | — | — | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | — | — | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | — | — | — |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | — | — | — |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | — | — | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | — | — | — |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | — | — | — |
| n-pentanethiol | C5H12S | — | — | — | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | — | — | — |

Hide redundant columns.

gt\_tbl\_8 = (  
 gt\_tbl\_7  
 .cols\_hide(columns="O3\_k298")  
)  
  
gt\_tbl\_8

| Gas-Phase reactions of selected **mercaptan** compounds | | | | |
| --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | |
| OH | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | — | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | — | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | — | — |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | — | — |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | — | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | — | — |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | — | — |
| n-pentanethiol | C5H12S | — | — | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | — | — |

## 1.5 Using the opt\_\*() Methods for Quick Styling

Use theming to style quickly.

gt\_tbl\_9 = (  
 gt\_tbl\_8  
 .opt\_stylize(color="red") # default is blue, it also has style as argument, which ranges from 1 to 6  
)  
  
gt\_tbl\_9

| Gas-Phase reactions of selected **mercaptan** compounds | | | | |
| --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | |
| OH | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | — | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | — | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | — | — |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | — | — |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | — | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | — | — |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | — | — |
| n-pentanethiol | C5H12S | — | — | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | — | — |

Don’t use the default font.

from great\_tables import system\_fonts  
  
gt\_tbl\_10 = (  
 gt\_tbl\_9  
 .opt\_table\_font(font=system\_fonts(name="humanist"))  
)  
  
gt\_tbl\_10

| Gas-Phase reactions of selected **mercaptan** compounds | | | | |
| --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | |
| OH | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | — | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | — | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | — | — |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | — | — |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | — | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | — | — |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | — | — |
| n-pentanethiol | C5H12S | — | — | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | — | — |

Make more space between neighboring values.

gt\_tbl\_11 = (  
 gt\_tbl\_10  
 .opt\_horizontal\_padding(scale= 3)  
)  
  
gt\_tbl\_11

| Gas-Phase reactions of selected **mercaptan** compounds | | | | |
| --- | --- | --- | --- | --- |
|  |  | Reaction Rate Constant (298 K), cm3 molecules–1 s–1 | | |
| OH | NO3 | Cl |
| methanethiol | CH4S | 3.50 × 10−11 | 9.20 × 10−13 | 2.00 × 10−10 |
| ethanethiol | C2H6S | 4.50 × 10−11 | 1.21 × 10−12 | 1.75 × 10−10 |
| propanethiol | C3H8S | 5.30 × 10−11 | — | 2.14 × 10−10 |
| 2-propanethiol | C3H8S | 3.90 × 10−11 | — | 2.70 × 10−10 |
| 1-butanethiol | C4H10S | 5.60 × 10−11 | — | — |
| 2-methyl-1-propanethiol | C4H10S | 4.60 × 10−11 | — | — |
| 2-butanethiol | C4H10S | 3.80 × 10−11 | — | 1.65 × 10−10 |
| t-butylsulfide | C4H10S | 2.90 × 10−11 | — | — |
| 2-methylbutanethiol | C5H12S | 5.20 × 10−11 | — | — |
| n-pentanethiol | C5H12S | — | — | 1.97 × 10−10 |
| 1,2-ethanedithiol | C2H6S2 | 3.80 × 10−11 | — | — |