```
1 C:\Users\Minh\anaconda3\envs\my-rdkit-env\python.exe D:\Minh\Books\
   Research\Accelerated-Paper\Github\scripts\prepare_dataset.py
 2
                    molecule
                               bond_index
                                                                  bdscfe
                                                                             set
                                            . . .
 3 0
      1643
            CC(=0)[C0H](C)0
                                                  67.177976
                                                               85.596182
                                            . . .
                                                                           train
 4 1
      5327
             CN1CCN(CCN)CC1
                                        6
                                                  74.432608
                                                               94.044523
                                                                           train
                                            . . .
 5 2
      5847
               OCCc1ncc[nH]1
                                        0
                                            . . .
                                                  85.799933
                                                              103.607444
                                                                           train
 6 3
                                        2
      5849
               OCCc1ncc[nH]1
                                                  97.257620
                                                              116.298432
                                                                           train
                                            . . .
 7 4
                                        2
      7480
                 CCCC(=0)0CC
                                            . . .
                                                  79.632775
                                                               98.273105
                                                                           train
  5
 8
      8888
            Nc1cc(N)cc(N)c1
                                       11
                                                 105.035594
                                                              120.115741
                                                                           train
                                            . . .
 9
  6
      8891
            Nc1cc(N)cc(N)c1
                                                 105.035594
                                                              120.115741
                                       14
                                                                           train
                                            . . .
10 7
      8894
            Nc1cc(N)cc(N)c1
                                       17
                                                 105.035594
                                                              120.115741
                                            . . .
                                                                           train
11 8
      9204
                 CC(C)CC(C)C
                                        2
                                                  69.721270
                                                               91.806500
                                                                           train
                                            . . .
12 9
      9205
                 CC(C)CC(C)C
                                        3
                                                  69.721270
                                                               91.806500
                                                                           train
                                            . . .
13
14 [10 rows x 9 columns]
15 Start sorting over 815395 rows.
16
          rid
                       molecule
                                  bond_index
                                                         bdfe
                                                                    bdscfe
                                                                               set
17 0
      1102691
               Br/C1=C\CCCCCC1
                                                    70.665671
                                                                 82.426866
                                                                             train
                                           9
18 1
               Br/C1=C\CCCCCC1
      1102692
                                                    98.252849
                                                                113.905364
                                                                             train
                                               . . .
19 2
               Br/C1=C\CCCCCC1
                                                    77.981798
      1102693
                                           10
                                                                 94.307472
                                                                             train
                                               . . .
20 3
      1102694
               Br/C1=C\CCCCCC1
                                          11
                                                    77.981798
                                                                 94.307472
                                               . . .
                                                                             train
21 4
      1102695
               Br/C1=C\CCCCCC1
                                           12
                                                    86.847246
                                                                103.876175
                                                                             train
                                               . . .
22 5
      1102696
               Br/C1=C\CCCCCC1
                                          13
                                               . . .
                                                    86.847246
                                                                103.876175
                                                                             train
               Br/C1=C\CCCCCC1
23 6
      1102697
                                           14
                                                    86.099882
                                                                102.784938
                                               . . .
                                                                             train
24 7
               Br/C1=C\CCCCCC1
                                           15
                                                                102.784938
      1102698
                                                    86.099882
                                                                             train
                                               . . .
25 8
               Br/C1=C\CCCCCC1
      1102699
                                          16
                                                    85.890294
                                                                102.463496
                                                                             train
                                               . . .
26 9
      1102700
               Br/C1=C\CCCCCC1
                                          17
                                                    85.890294
                                                                102.463496
                                                                             train
                                               . . .
27
28 [10 rows x 9 columns]
29 Start indexing over 815395 rows.
30 Index: [(0, 'Br/C1=C\\CCCCC1'),
    (14, 'Br/C=C/C1CCCCC1'),
31
32
    (29, 'Br/C=C/Cc1ccccc1'),
33
         'Br/C=C/[C@@H]1CC=CCC1'),
    (41,
    (54,
34
         'Br/C=C/[C@H]1CC=CCC1'),
35
    (67, 'Br/C=C/c1ccccn1'),
36
    (75.
         'Br/C=C/c1cccnc1'),
37
    (82, 'Br/C=C\\c1ccccc1'),
38
    (91,
         'Br/C=C\\c1ccccn1'),
39
    (99, 'BrC(Br)(Br)Br')]
40 Start filtering over 815395 rows with 63229 partitions.
41 Completed 3000 partitions with progress 4.74%.
42 Completed 6000 partitions with progress 9.49%.
43 Completed 9000 partitions with progress 14.23%.
44 Completed 12000 partitions with progress 18.98%.
45 Completed 15000 partitions with progress 23.72%.
46 Completed 18000 partitions with progress 28.47%.
47 Completed 21000 partitions with progress 33.21%.
48 Completed 24000 partitions with progress 37.96%.
49 Completed 27000 partitions with progress 42.70%.
50 Completed 30000 partitions with progress 47.45%.
```

```
51 Completed 33000 partitions with progress 52.19%.
52 Completed 36000 partitions with progress 56.94%.
53 Completed 39000 partitions with progress 61.68%.
54 Completed 42000 partitions with progress 66.43%.
55 Completed 45000 partitions with progress 71.17%.
56 Completed 48000 partitions with progress 75.91%.
57 Completed 51000 partitions with progress 80.66%.
58 Completed 54000 partitions with progress 85.40%.
59 Completed 57000 partitions with progress 90.15%.
60 Completed 60000 partitions with progress 94.89%.
61 Completed 63000 partitions with progress 99.64%.
62 Rows: 519758 rows --> Non-rows: 295637 rows.
63 Is filter works correct: True
64 Start exporting from ../BDE_data/20211201_bonds_for_neighbors.csv to ../
  BDE_data/source_dataset_v2_test.csv.
65
         rid
                     molecule bond_index
                                                    bdfe
                                                              bdscfe
  set
66 0 1102691 Br/C1=C\CCCCCC1
                                       0 ... 70.665671 82.426866
  train
                                                          113.905364
67 1 1102692 Br/C1=C\CCCCCC1
                                      9 ... 98.252849
  train
68 2 1102693 Br/C1=C\CCCCCC1
                                       10 ... 77.981798
                                                           94.307472
  train
69 3 1102695 Br/C1=C\CCCCCC1
                                      12
                                          ... 86.847246
                                                          103.876175
  train
70 4 1102697 Br/C1=C\CCCCCC1
                                      14 ... 86.099882
                                                          102.784938
  train
71 5 1102699 Br/C1=C\CCCCCC1
                                      16 ... 85.890294
                                                          102.463496
  train
72 6 1102701 Br/C1=C\CCCCCC1
                                       18
                                          ... 86.563612
                                                          103.491393
  train
73 7
     1102703 Br/C1=C\CCCCCC1
                                          ... 80.646829
                                       20
                                                           97.545021
  train
74 8 1033498 Br/C=C/C1CCCC1
                                      0 ... 71.736829
                                                           83.205387
  train
75 9
     1033499 Br/C=C/C1CCCCC1
                                      2 ... 84.133269 103.482457
  train
76
77 [10 rows x 9 columns]
78
79 Process finished with exit code 0
80
```