

```
16 16 0.000000 0.000000
3 13 -0.100000 0.000000
4 11 -0.173205 0.000000
5 11 0.100000 0.000000
8 16 -0.100000 0.000000
9 14 -0.173205 0.000000
10 14 0.100000 0.000000

===== PiLib Variable =====
hop.hop_mat(2)(:,:,1), @a-sp, hop_mat between site-2 and its 1-th neighbor
ORDER= 1, SIZE=[ 7, 3], TYPE=SPARSE

1 2 3

16 16 0.000000 0.000000
11 4 -0.173205 0.000000
11 5 0.100000 0.000000
13 3 -0.100000 0.000000
14 9 -0.173205 0.000000
14 10 0.100000 0.000000
16 8 -0.100000 0.000000

===== PiLib Variable =====
hop.hop_mat(2)(:,:,2), @a-sp, hop_mat between site-2 and its 2-th neighbor
ORDER= 1, SIZE=[ 9, 3], TYPE=SPARSE

1 2 3

16 16 0.000000 0.000000
11 1 -0.100000 0.000000
12 4 0.173205 0.000000
12 5 0.100000 0.000000
13 2 -0.100000 0.000000
14 6 -0.100000 0.000000
15 9 0.173205 0.000000
15 10 0.100000 0.000000
16 7 -0.100000 0.000000

===== PiLib Variable =====
hop.hop_mat(2)(:,:,3), @a-sp, hop_mat between site-2 and its 3-th neighbor
ORDER= 1, SIZE=[ 7, 3], TYPE=SPARSE

1 2 3

16 16 0.000000 0.000000
11 3 0.100000 0.000000
12 2 0.100000 0.000000
13 5 0.200000 0.000000
14 8 0.100000 0.000000
15 7 0.100000 0.000000
16 10 0.200000 0.000000

===== PiLib Variable =====
hop.hop_mat(2)(:,:,4), @a-sp, hop_mat between site-2 and its 4-th neighbor
ORDER= 1, SIZE=[ 7, 3], TYPE=SPARSE

1 2 3
```