```python
gadget1 = Gadget('YX', phase=-1/2)
gadget2 = Gadget('XY', phase=1/2)
circuit = GadgetCircuit([gadget1, gadget2])
circuit.apply(CX(0, 1), draw=True)
```
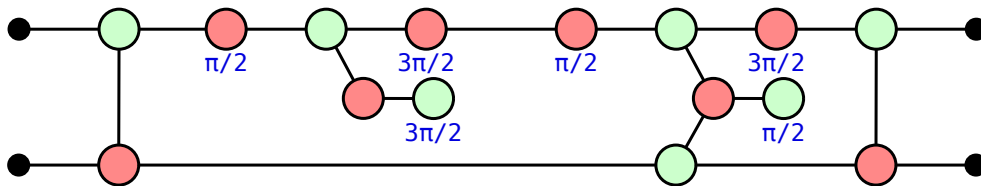


```python
###############################################################################
%cd /Users/ayman/Documents/Dev/zxfermion
%load_ext autoreload
%autoreload 2

import json
import pyzx as zx
import numpy as np
from copy import copy, deepcopy
from itertools import combinations
```