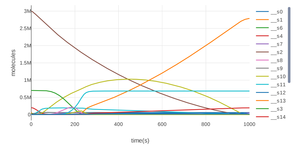
```
[7] sbml = model.toSBML()
    # print(sbml)
    from roadrunner import RoadRunner
    with open('out+sbml.xml', 'w') as f:
        f.write(sbml)
    xmod = RoadRunner(sbml)
    xmod.reset()
    xmod.integrator.relative_tolerance = 1e-12
    xmod.integrator.absolute_tolerance = 1e-20
    # xmod.oneStep()
    xmod.simulate(0,1000,1000,selections=['time']+xmod.getFloatingSpeciesIds())
    xmod.plot(xtitle='time(s)', ytitle='molecules')

    values = {s:xmod[s] for s in xmod.getFloatingSpeciesIds()}
    block_rates = [xmod['block()_Add10'.format(k)] for k in (range(len(wiring.blocks)))]
    # print(block_rates)
    r_block_indices = model.getReactionBlockIndices()
```



SBML Simulation

```
[8] # SBML comparison
    import tellurium as te
    with open(sbfile) as f:
        rr_model = te.loada(f.read())

    rr_model.reset()
    rr_model.integrator.relative_tolerance = 1e-12
    rr_model.integrator.absolute_tolerance = 1e-20
    # rr_model.selections =
    ['time','__s0','__s1','__s6','__s4','__s7','__s8','__s2','__s9','__s10','__s15']
    rr_model.simulate(0,1000,2000)

    for var,value in values.items():
        print(f'rel diff for {i: {:.3f}'.format(var,(rr_model[var]-value)/max(rr_model[var],1.)))
        rr_model[var] = value

    # print('\nreactions:')
    # for r_index in range(rr_model.getNumReactions()):
    #     r_id = rr_model.getReactionIds()[r_index]
    #     block_index = r_block_indices[r_index]
    #     print('{} rel diff: {:.3f}'.format(r_id,(rr_model[r_id]-
    block_rates[block_index])/max(rr_model[r_id],1.)))

    rr_model.plot(xtitle='time(s)', ytitle='molecules')
```

```
rel diff for __s15: 0.000
rel diff for __s5: 0.000
rel diff for __s16: 0.000
rel diff for __s17: -0.000
rel diff for __s18: 0.000
rel diff for __s19: -0.000
rel diff for __s20: 0.000
```