```
model = changeRxnBounds(model,'EX_glc(e)',-18.5,'l');%maxglucoseuptake
model = changeRxnBounds(model,'EX_o2(e)',-1000,'l');%oxygenunlimited
model = changeObjective(model,'Biomass_Ecoli_core_N(w/GAM)-Nmet2');%objectivefunc
FBAsolution = optimizeCbModel(model,'max')
FBAsolution.f
fluxData = FBAsolution.v;
nonZeroFlag = 1;
printFluxVector(model, fluxData, nonZeroFlag)
```

```
FBAsolution =

  struct with fields:

    origStatText: []
               f: 1.6531
              f0: NaN
              f1: 1.6531
              f2: NaN
               v: [95×1 double]
               y: [72×1 double]
               w: [95×1 double]
               s: [72×1 double]
          solver: 'glpk'
       algorithm: 'default'
            stat: 1
        origStat: 5
            time: 0.0150
           basis: []
          vars_v: []
               x: [95×1 double]


ans =

    1.6531

ACKr                         3.658e-29
ACONTa                           10.37
ACONTb                           10.37
AKGDH                            8.582
ATPM                              8.39
ATPS4r                           80.61
Biomass_Ecoli_core_N(w/GAM)-Nmet2             1.653
CO2t                            -40.65
CS                               10.37
CYTBD                            77.48
ENO                              26.84
EX_co2(e)                        40.65
EX_glc(e)                        -18.5
EX_h2o(e)                        52.69
EX_h(e)                          33.16
EX_nh4(e)                       -9.014
EX_o2(e)                        -38.74
EX_pi(e)                        -6.081
FBA                              13.56
FORti                        6.374e-30
FUM                              8.582
```

```
G6PDH2r                    9.881
GAPD                       29.31
GLCpts                      18.5
GLNS                      0.4227
GLUDy                     -8.591
GND                        9.881
H2Ot                      -52.69
ICDHyr                     10.37
MDH                        8.582
NADH16                      68.9
NH4t                       9.014
O2t                        38.74
PDH                        16.56
PFK                        13.56
PFL                    6.374e-30
PGI                         8.28
PGK                       -29.31
PGL                        9.881
PGM                       -26.84
PIt2r                      6.081
PPC                        4.737
PTAr                  -3.692e-29
PYK                        2.744
RPE                        5.399
RPI                       -4.482
SUCDi                      8.582
SUCOAS                    -8.582
TALA                       2.998
TKT1                       2.998
TKT2                       2.401
TPI                        13.56
```

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