Supplemental Material

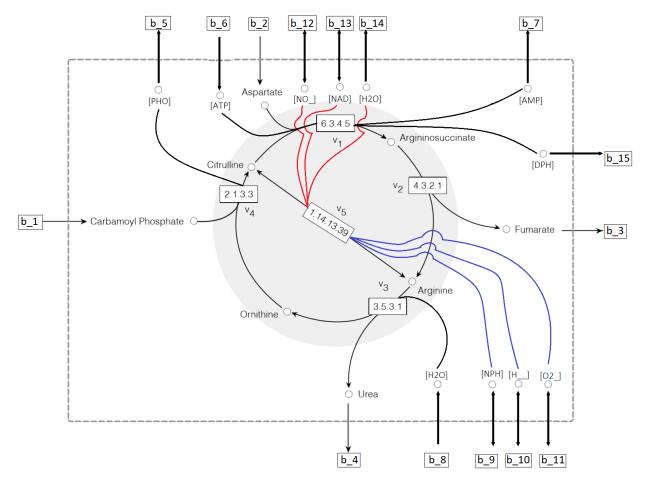


Figure 1: Reaction Pathway Scheme with Sources and Sinks depicted with b_# and reactions as v_#

List of Reactions:

```
ATP + L-Citrulline + L-Aspartate
                                                  Diphosphate + Arginosuccinate
                                    => AMP +
                                                                                  [v_1]
Arginosuccinate
                                        Fumarate + L-Arginine
                                                                                  [v_2]
                                    =>
L-Arginine + Water
                                         UREA + L-Ornithine
                                                                                  [v_3]
                                    =>
Carbamoyl Phosphate + L-Ornithine
                                    => Orthophosphate + L-Citrulline
                                                                                  [v_4]
                                3 Hydrogen
2 L-Arginine
                  3 NADPH +
                                                  4 Oxygen
                                                               <=>
                 2 L-Citrulline +
                                 2 Nitrogen Oxide
                                                      3 NADP
                                                                                  [v_5]
                                                               + 4 Water
```

List of Reactions (Elements)

Sources:

https://www.genome.jp/kegg-bin/show_pathway?map00220

Varner, J. (2019, 3 11). CHEME-7770-Cornell-S19. Retrieved from Github.com: https://github.com/varnerlab/CHEME-7770-Cornell-S19/blob/master/src/PS3/Flux.jl

https://github.com/varnerlab/CHEME-7770-Cornell-S19/blob/master/src/PS3/Flux.jl

Park et al Nat Chem Biol 12:482-9, 2016