Load of tRNA

Sum of reactions for charging (not including Pyrophosphatase)

(rxn 1) tRNA + AA → AA~tRNA (+ water)
(rxn 2) ATP (+ water) → AMP + PP_i

How reactions 1 & 2 are coupled:
(a) ATP + AA → AMP~AA + PP_i
(b) AA~AMP + tRNA → AA~tRNA + AMP

Sum (a) + (b) = ATP + AA + tRNA → AMP + PP_i + AA~tRNA = sum (1) + (2)

Sum of reactions for charging -- including Pyrophosphatase

ATP + AA + tRNA → AMP + 2P_i + AA~tRNA