Energy conversion by combustion – Thermochemistry, mass and energy balance

Assignment #2 (due, excel by e-mail and pdf with presentation, 30 Março)

1. Solve problem n^{er}5 of class #3.

2. Solve problem n^{er}6 of class #3, considering:

    a) Poor air, λ=0.8

    b) Stoichiometry, λ=1

    c) Excess air, λ=1.5

    d) Represent every data above in the same graph and discuss the influence of λ in the adiabatic temperature.

3. Try to use an equilibrium solver e.g. Cantera, to calculate the combustion of CH_4 with O_2 to see what is the adiabatic temperature it retrieves.