**Chemical Engineering Thermodynamics**

**Quiz 4 February 4, 2021**

Calculate the heat of combustion of ethanol/gas blend versus ethanol. Which is a better deal $ for the blend or $ for pure gasoline. Assume gasoline is octane.

*PLEASE TURN IN YOUR WORK, THIS ANSWER SHEET,
AND THE GRAPH FROM “e)”*

|  |  |  |
| --- | --- | --- |
|  | Answer Sheet |  |
| a) | *P*f, MPa |  |
|  | *n*fA, moles |  |
|  | *n*fB, moles |  |
|  |  |  |
| b) | Excess Moles |  |
|  |  |  |
| c) | *T*fB, K |  |
|  | *P*fB, MPa |  |
|  | *n*fB, moles |  |
|  |  |  |
| d) | Function: $$T\_{f}^{B}=A+\frac{B}{Ct+1}$$ |  |
|  | A, K |  |
|  | B, K |  |
|  | C, min-1 |  |
|  |  |  |
| e) | ~Time TB = TA, min |  |

