CAPD 培训班练习一作答

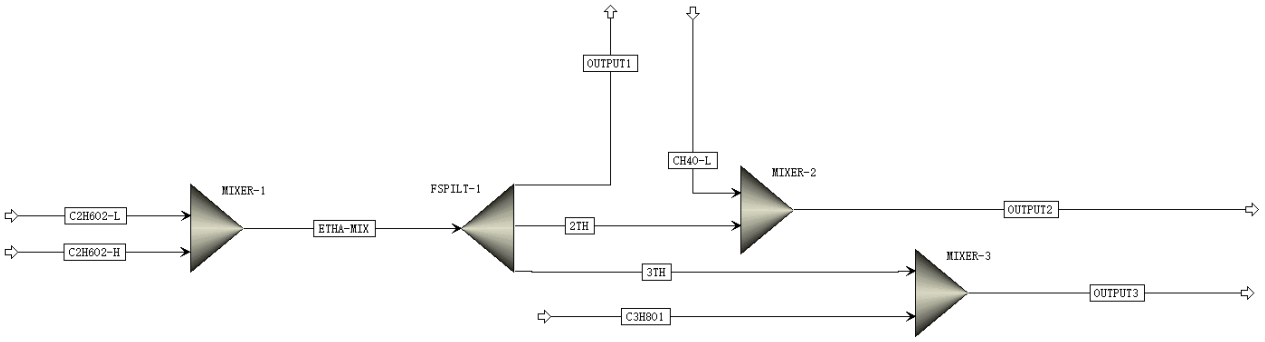
1 目的

1. 练习用 Aspen Plus 进行流程仿真的基本步骤

2. 掌握 Mixer、FSplit、Mult、Dupl 的用法

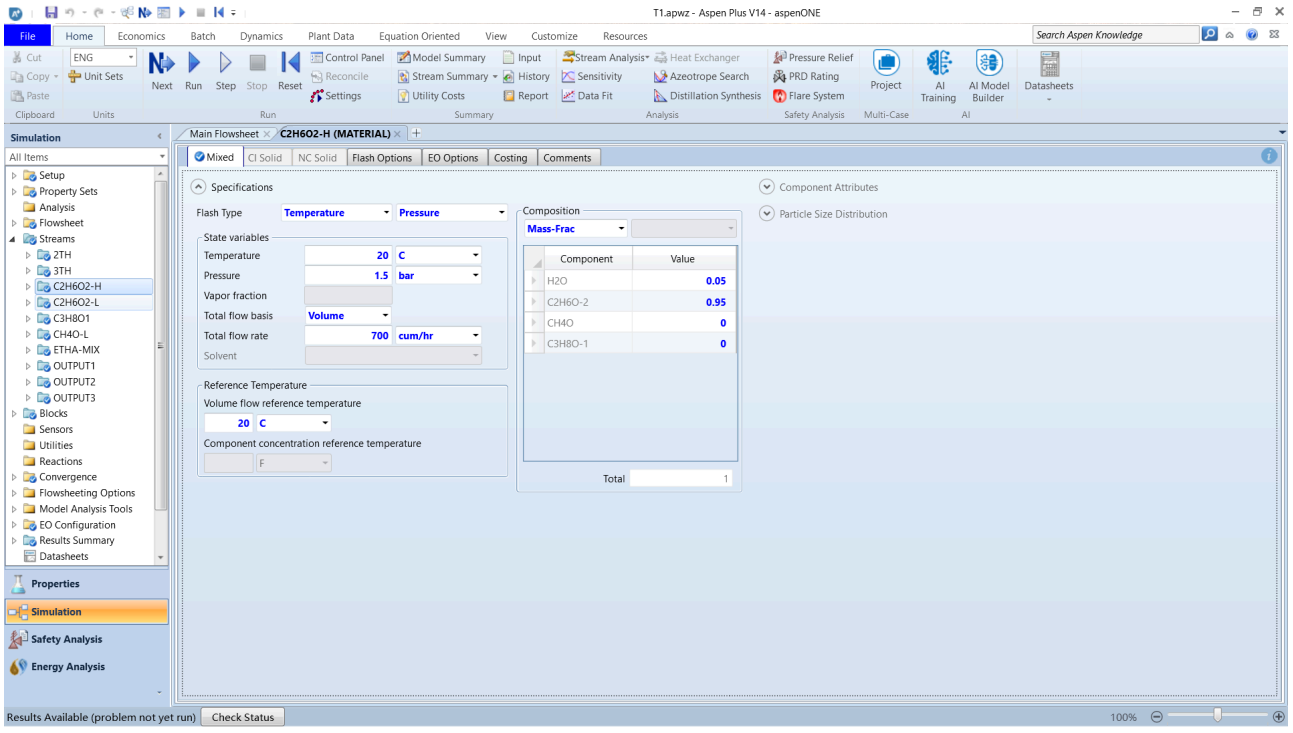
2 问题1

2.1 流程图

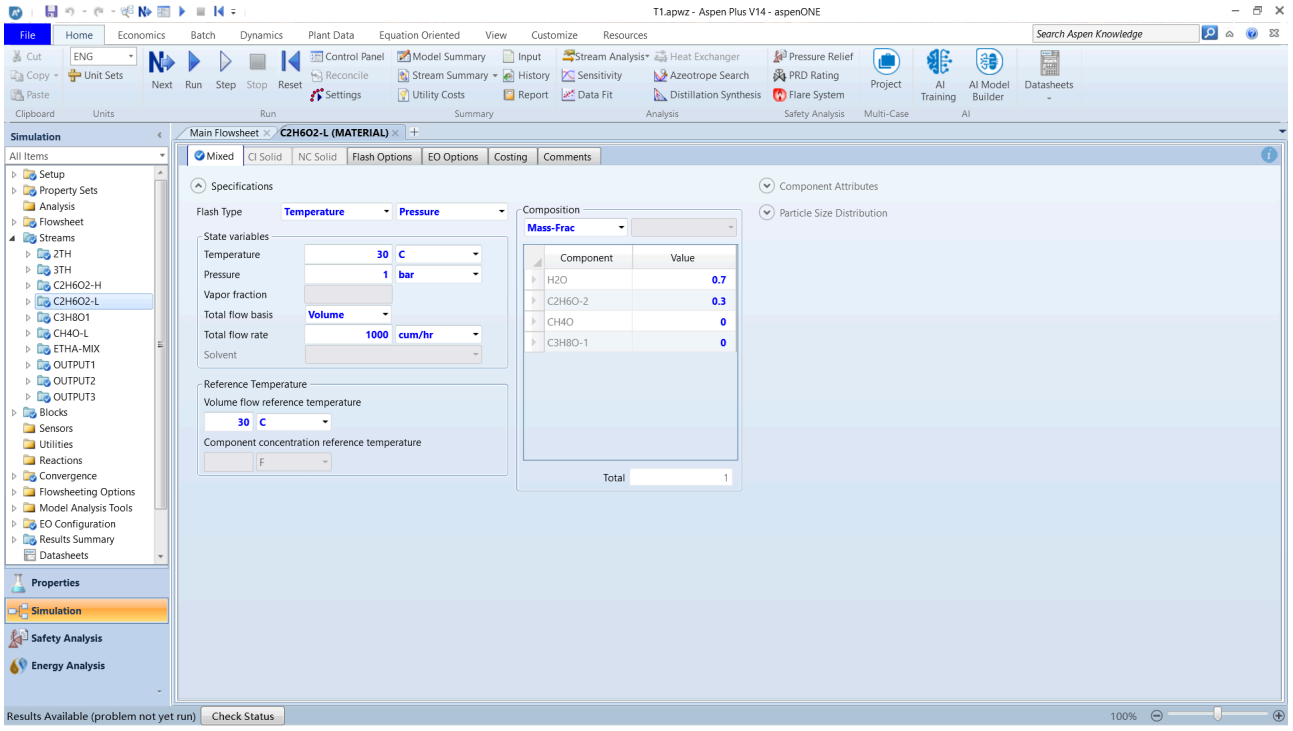


2.2 输入参数

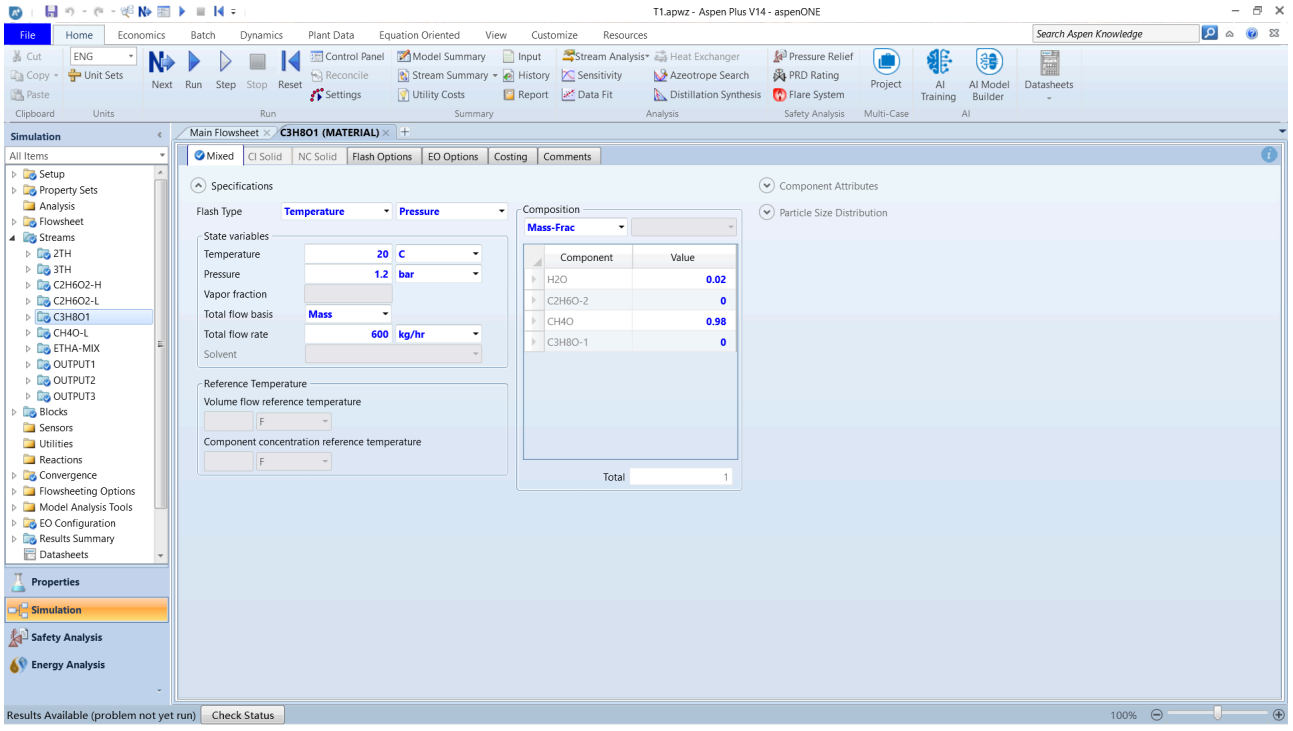
2.2.1 高浓酒精



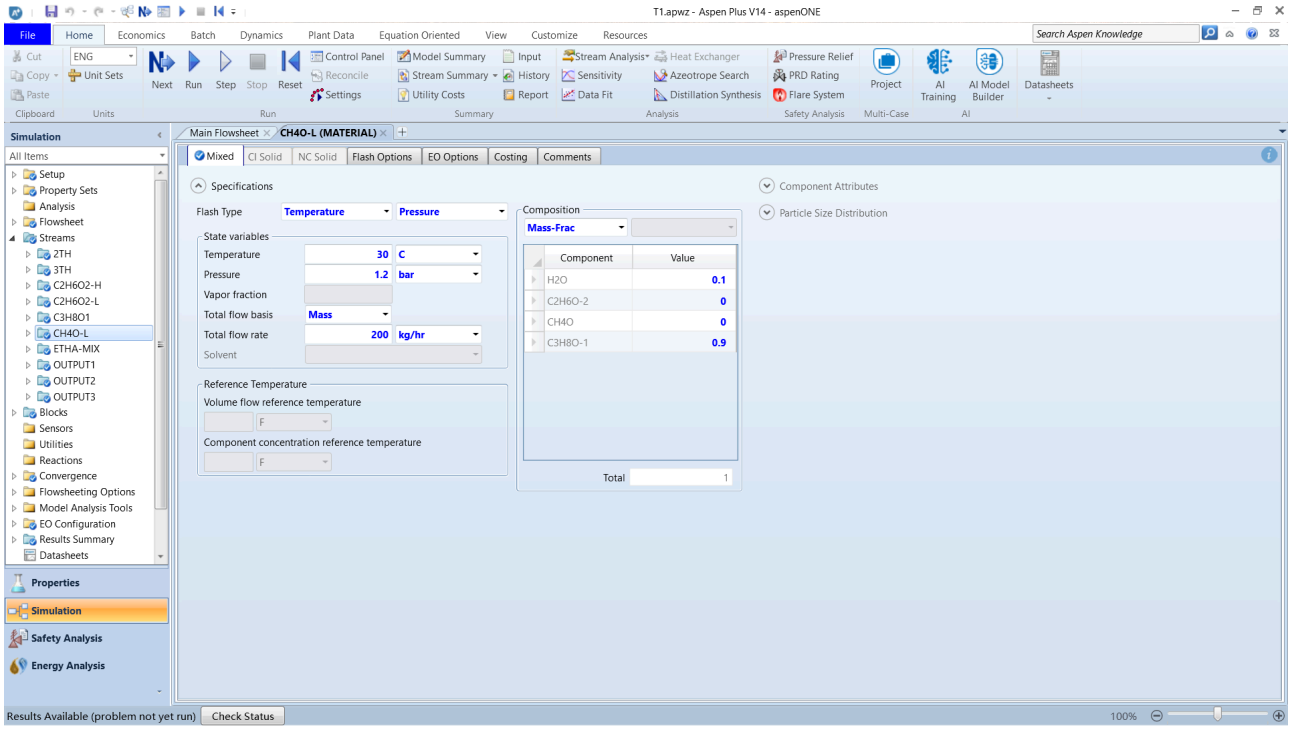
2.2.2 低浓酒精



2.2.3 正丙醇溶液

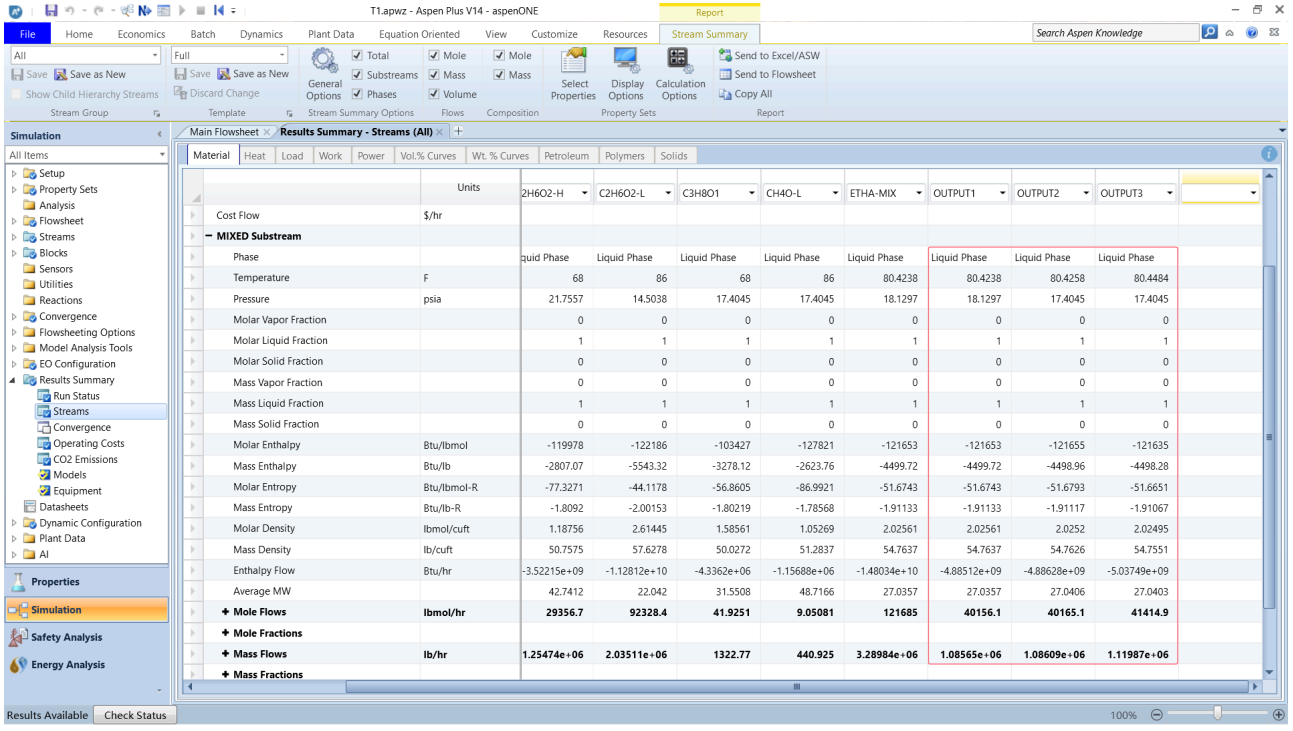


2.2.4 甲醇溶液



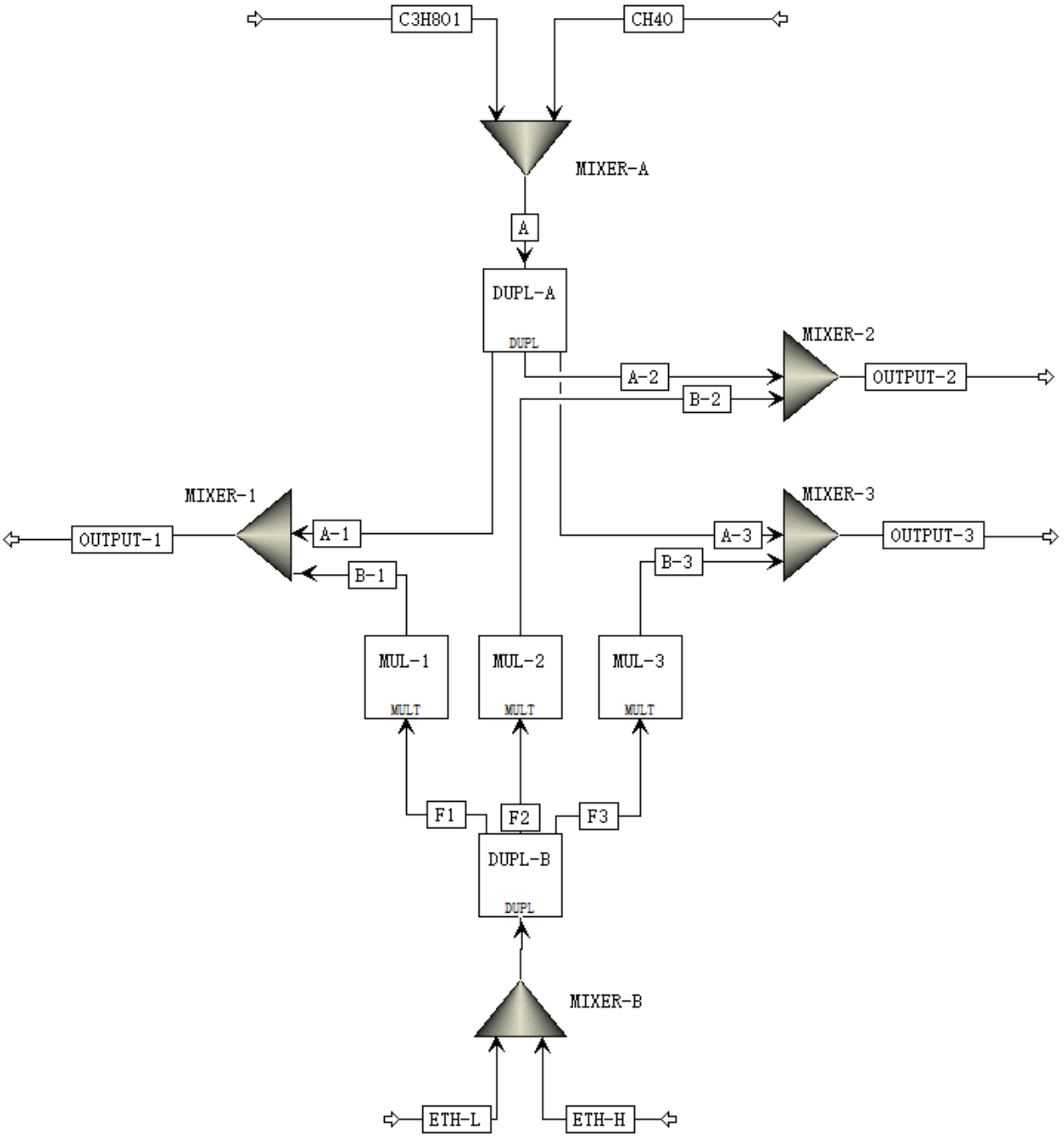
2.3 结果分析

根据仿真结果图:



3 问题2

3.1 流程图

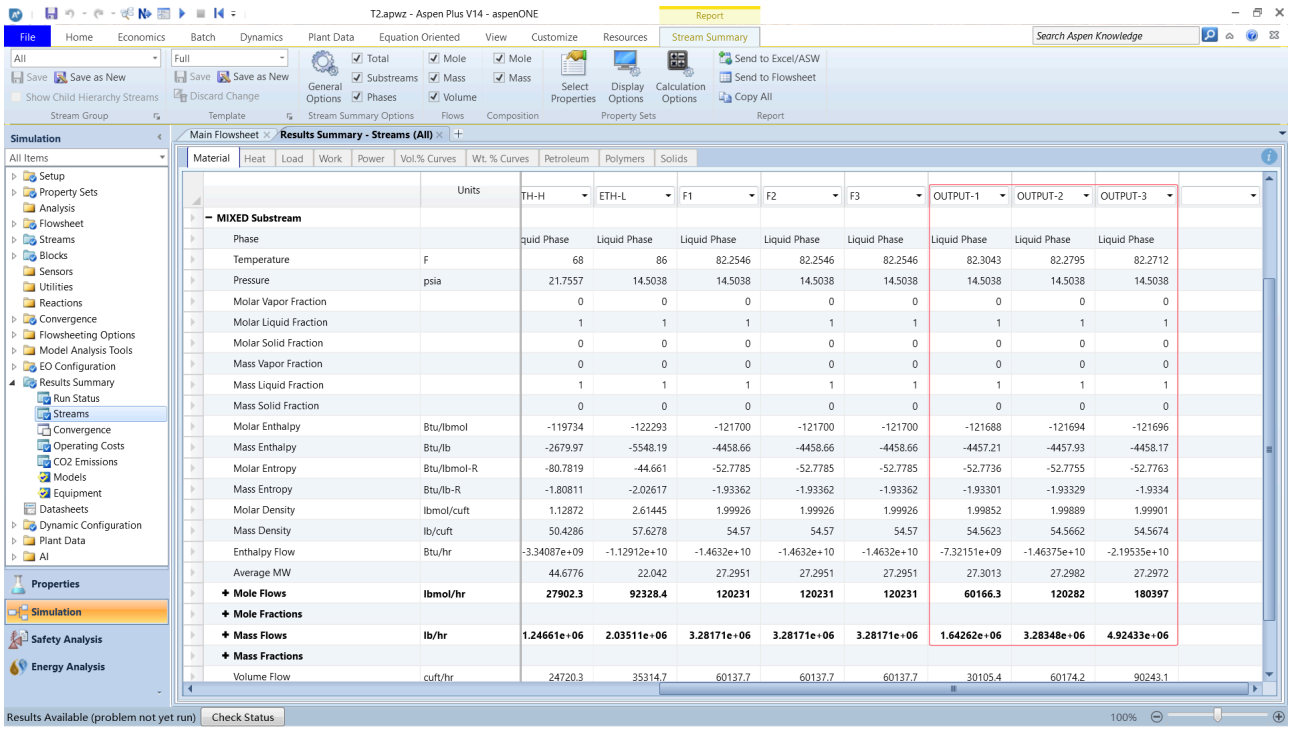


3.2 输入参数

与问题1相同,不再重复列出。

3.3 结果分析

根据仿真结果图:


T2.apwz - Aspen Plus V14 - aspenONE
Report
File
Home
Economics
Batch
Dynamics
Plant Data
Equation Oriented
View
Customize
Resources
Stream Summary
Search Aspen Knowledge
Save
Save as New
Show Child Hierarchy Streams
Stream Group
Discard Change
Template
General Options
Total
Substreams
Phases
Stream Summary Options
Mole
Mass
Volume
Flows
Composition
Select Properties
Display Options
Calculation Options
Property Sets
Send to Excel/ASW
Send to Flowsheet
Copy All
Report
Simulation
All Items
Setup
Property Sets
Analysis
Flowsheet
Streams
Blocks
Sensors
Utilities
Reactions
Convergence
Flowsheeting Options
Model Analysis Tools
EO Configuration
Results Summary
Run Status
Streams
Convergence
Operating Costs
CO2 Emissions
Models
Equipment
Datasheets
Dynamic Configuration
Plant Data
AI
Properties
Simulation
Safety Analysis
Energy Analysis
Main Flowsheet
Results Summary - Streams (All)
Material
Heat
Load
Work
Power
Vol.% Curves
Wt. % Curves
Petroleum
Polymers
Solids
Units
TH-H
ETH-L
F1
F2
F3
OUTPUT-1
OUTPUT-2
OUTPUT-3
MIXED Substream
Phase
Liquid Phase
Temperature
F
68
86
82.2546
82.2546
82.2546
82.3043
82.2795
82.2712
Pressure
psia
21.7557
14.5038
14.5038
14.5038
14.5038
14.5038
14.5038
14.5038
Molar Vapor Fraction
Molar Liquid Fraction
Molar Solid Fraction
Mass Vapor Fraction
Mass Liquid Fraction
Mass Solid Fraction
Molar Enthalpy
Btu/lbmol
-119734
-122293
-121700
-121700
-121700
-121688
-121694
-121696
Mass Enthalpy
Btu/lb
-2679.97
-5548.19
-4458.66
-4458.66
-4458.66
-4457.21
-4457.93
-4458.17
Molar Entropy
Btu/lbmol-R
-80.7819
-44.661
-52.7785
-52.7785
-52.7785
-52.7736
-52.7755
-52.7763
Mass Entropy
Btu/lb-R
-1.80811
-2.02617
-1.93362
-1.93362
-1.93362
-1.93301
-1.93329
-1.9334
Molar Density
lbmol/cuft
1.12872
2.61445
1.99926
1.99926
1.99926
1.99852
1.99889
1.99901
Mass Density
lb/cuft
50.4286
57.6278
54.57
54.57
54.57
54.5623
54.5662
54.5674
Enthalpy Flow
Btu/hr
-3.34087e+09
-1.12912e+10
-1.4632e+10
-1.4632e+10
-1.4632e+10
-7.32151e+09
-1.46375e+10
-2.19535e+10
Average MW
44.6776
22.042
27.2951
27.2951
27.2951
27.3013
27.2982
27.2972
Mole Flows
lbmol/hr
27902.3
92328.4
120231
120231
120231
60166.3
120282
180397
Mole Fractions
Mass Flows
lb/hr
1.24661e+06
2.03511e+06
3.28171e+06
3.28171e+06
3.28171e+06
1.64262e+06
3.28348e+06
4.92433e+06
Mass Fractions
Volume Flow
cuft/hr
24720.3
35314.7
60137.7
60137.7
60137.7
30105.4
60174.2
90243.1
Results Available (problem not yet run)
Check Status
100%