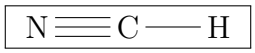
Summary

December 6, 2024

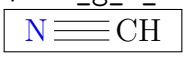
Contents

0.1 Loaded Graphs

0.1.1 g_{0}

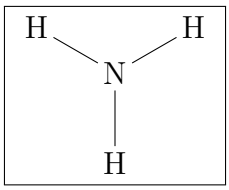


File: out/001_g_0_10300000

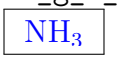


File: out/003_g_0_11310100

0.1.2 g_{1}

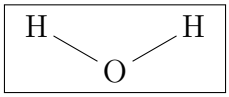


File: out/005_g_1_10300000

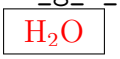


File: out/007_g_1_11310100

0.1.3 g_{2}



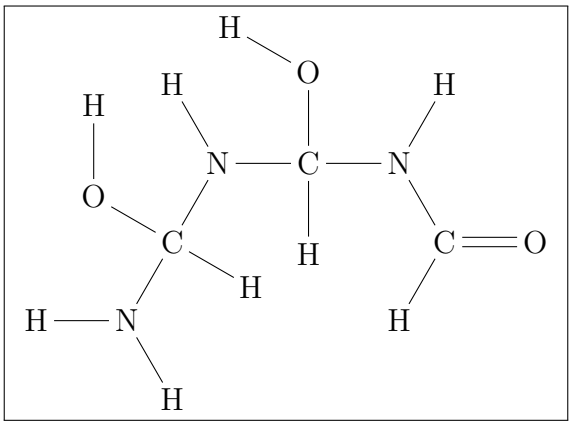
File: out/009_g_2_10300000



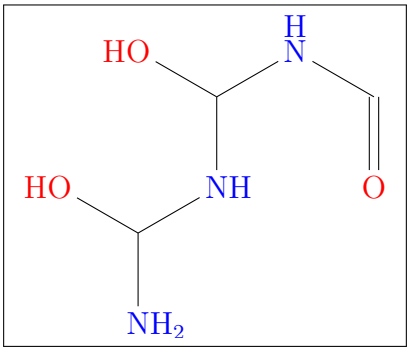
File: out/011_g_2_11310100

0.2 Product Graphs

0.2.1 p_{0,56}



File: out/013_g_1088_10300000



File: out/015_g_1088_11310100

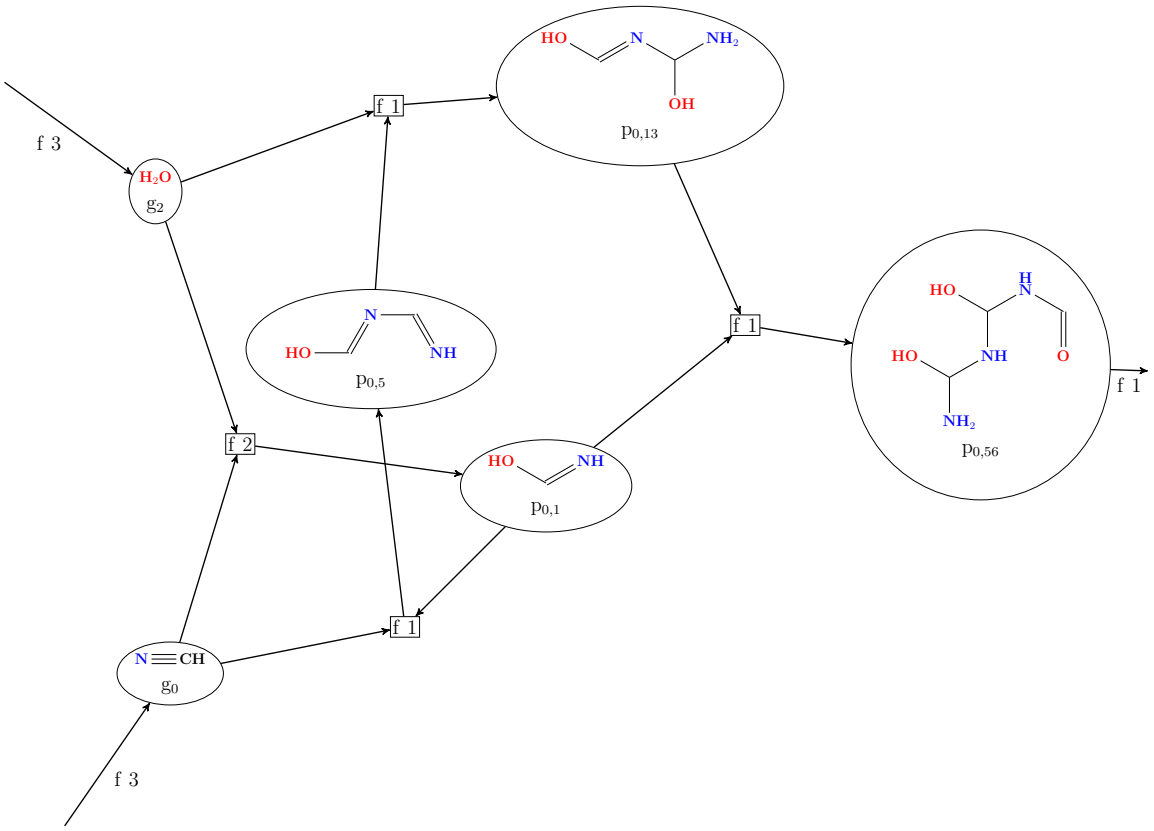
0.3 Enumerated Flows

0.3.1 Solution 0

Overall Data

```
Objective value (non-integral): -0.115813
Vertex/Graph In Out G           logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240635 -3.000000 35
p_{0,1}      0  0   -10.610101 1.000000  31
p_{0,56}     0  1   -31.869324 -3.000000 67
p_{0,5}      0  0   -16.158965 -3.000000 32
```

Filtered Graph



File: `out/027_dg_0_11100_f_0_0_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.817054	1.0	−27853.491269	31
$p_{0,5}$	0	0	−42425.357769	−3.0	−42435.335125	32
$p_{0,13}$	0	0	−55767.279594	−3.0	−55777.256949	35
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	−93.916364	−93.916364
14	$g_0, p_{0,1},$	$p_{0,5},$	1	−120.864379	−120.864379
123	$g_2, p_{0,5},$	$p_{0,13},$	1	−38.046712	−38.046712
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	−51.071992	−51.071992
Sum					−304.0662203790169

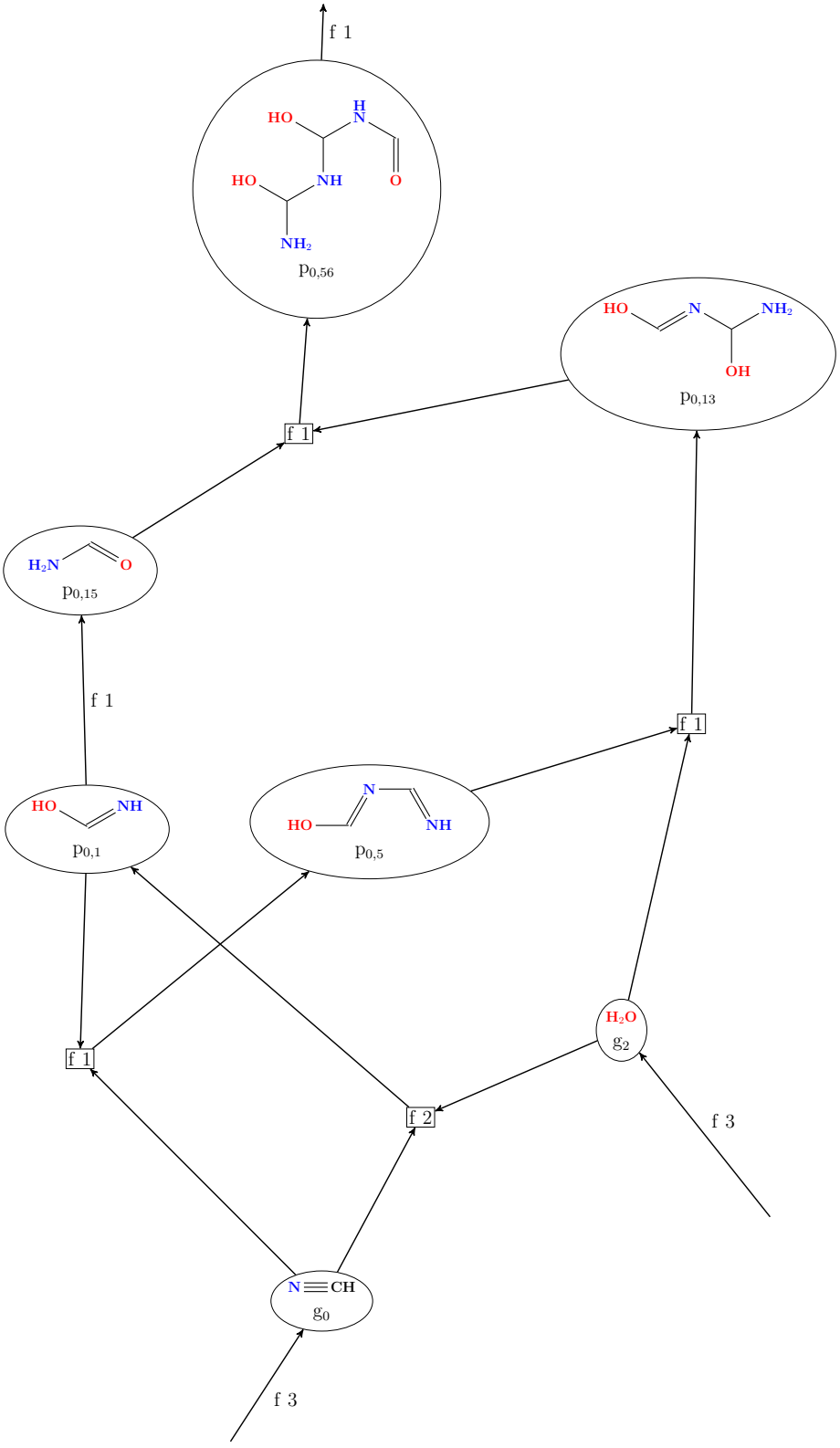
ΔG = -39.781580251749624
ΔE = -0.11581270696317425
|E| = 5
|U| = 4

0.3.2 Solution 1

Overall Data

```
Objective value (non-integral): -0.115813
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  -3.000000 0
p_{0,13}     0  0   -21.240678 0.078736  44
p_{0,15}     0  0   -10.625195 -3.000000 2
p_{0,1}      0  0   -10.610101 1.000000  1
p_{0,56}     0  1   -31.869260 1.000000  67
p_{0,5}      0  0   -16.158998 -3.000000 22
```

Filtered Graph



File: `out/038_dg_0_11100_f_0_1_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	−3.0	−13316.122316	0
$p_{0,1}$	0	0	−27856.817054	1.0	−27853.491269	1
$p_{0,5}$	0	0	−42425.44262	−3.0	−42435.419975	22
$p_{0,13}$	0	0	−55767.391129	0.078736	−55767.12927	44
$p_{0,15}$	0	0	−27896.445756	−3.0	−27906.423111	2
$p_{0,56}$	0	1	−83672.731446	1.0	−83669.405661	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	−84.836971	−84.836971
14	$g_0, p_{0,1},$	$p_{0,5},$	1	−120.94923	−120.94923
36	$p_{0,1},$	$p_{0,15},$	1	−48.708095	−48.708095
123	$g_2, p_{0,5},$	$p_{0,13},$	1	−22.005739	−22.005739
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	0.006113	0.006113
Sum					−304.06622037901883

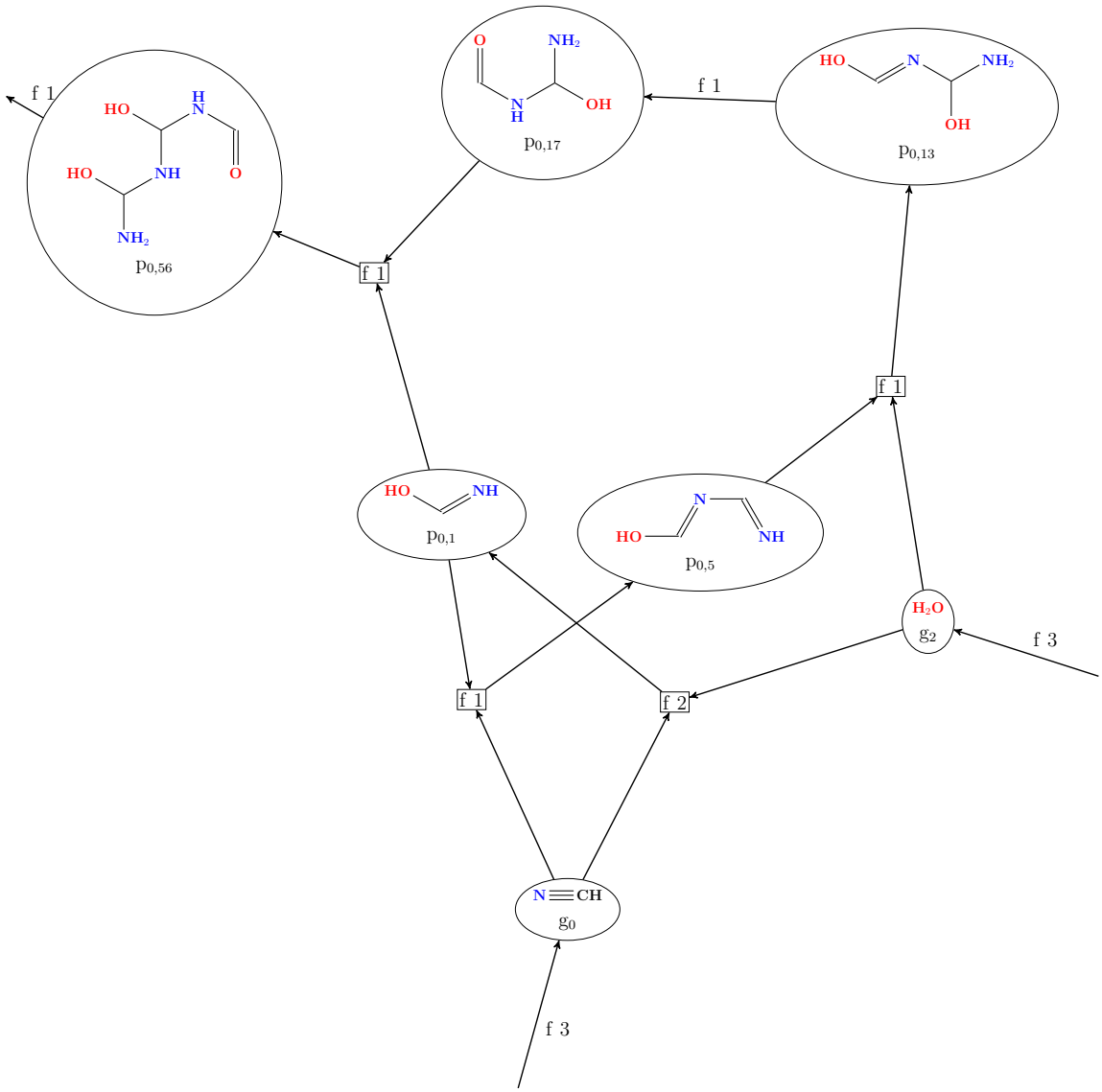
ΔG = -36.13308854669159
ΔE = -0.11581270696317499
|E| = 6
|U| = 5

0.3.3 Solution 2

Overall Data

```
Objective value (non-integral): -0.115813
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240678 -3.000000 64
p_{0,17}     0  0   -21.248887 -3.000000 65
p_{0,1}      0  0   -10.610101 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
p_{0,5}      0  0   -16.158998 1.000000  2
```

Filtered Graph



File: `out/049_dg_0_11100_f_0_2_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.817054	1.0	−27853.491269	1
$p_{0,5}$	0	0	−42425.44262	1.0	−42422.116835	2
$p_{0,13}$	0	0	−55767.391129	−3.0	−55777.368484	64
$p_{0,17}$	0	0	−55788.944315	−3.0	−55798.92167	65
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	−93.916364	−93.916364
14	$g_0, p_{0,1},$	$p_{0,5},$	1	−111.869837	−111.869837
123	$g_2, p_{0,5},$	$p_{0,13},$	1	−47.152789	−47.152789
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−29.407271	−29.407271
250	$p_{0,13},$	$p_{0,17},$	1	−21.553186	−21.553186
Sum					−304.06622037901417

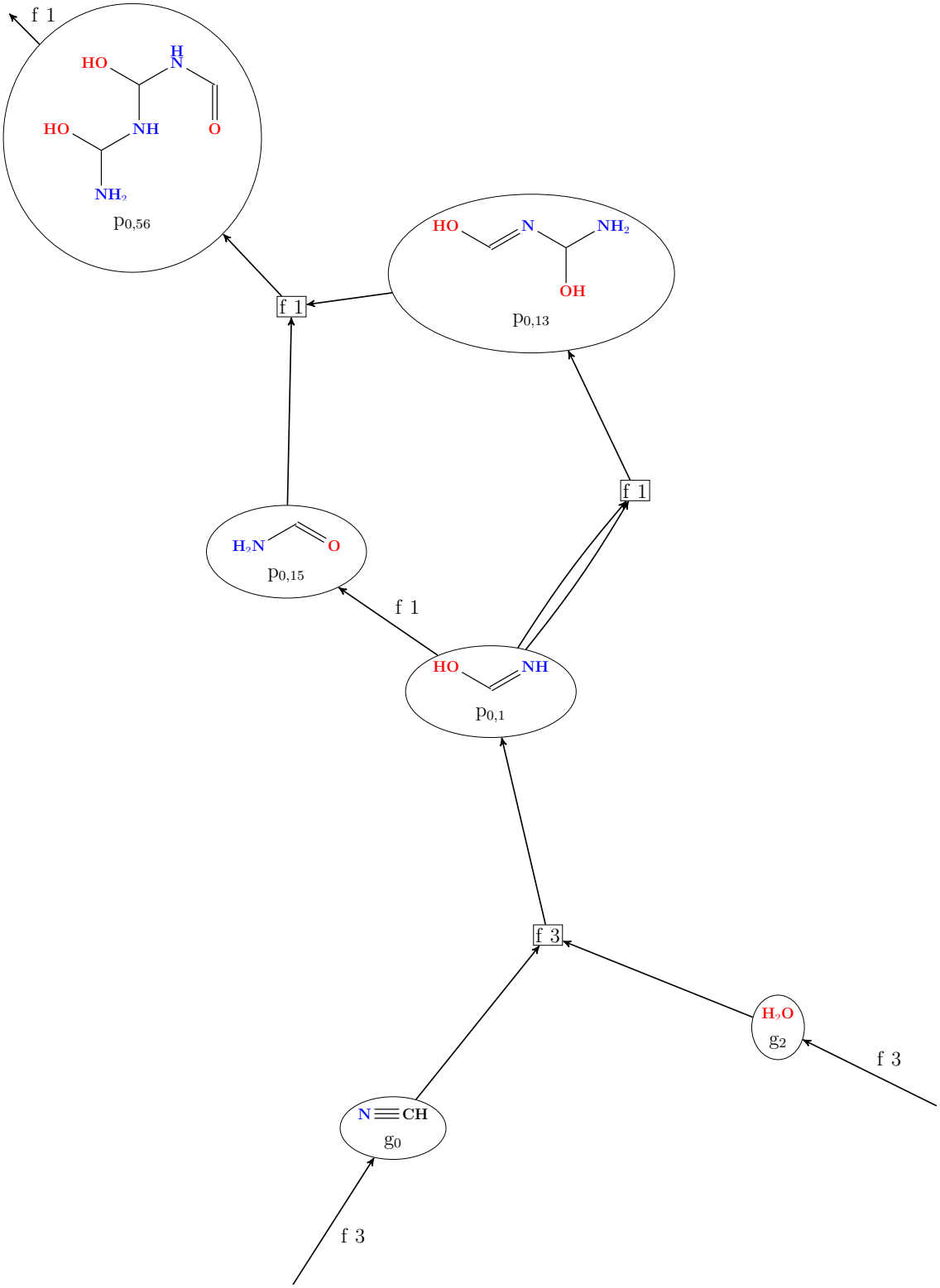
ΔG = -39.7815797266497
ΔE = -0.11581270696317322
|E| = 6
|U| = 5

0.3.4 Solution 3

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  -3.000000 0
p_{0,13}     0  0   -21.240678 -3.000000 3
p_{0,15}     0  0   -10.625195 1.000000  2
p_{0,1}      0  0   -10.610101 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/058_dg_0_11100_f_0_3_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	−3.0	−13316.122316	0
$p_{0,1}$	0	0	−27856.817054	1.0	−27853.491269	1
$p_{0,13}$	0	0	−55767.391129	−3.0	−55777.368484	3
$p_{0,15}$	0	0	−27896.445756	1.0	−27893.119971	2
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−84.836971	−84.836971
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	−65.106262	−65.106262
36	$p_{0,1},$	$p_{0,15},$	1	−39.628701	−39.628701
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	−11.331756	−11.331756
Sum					−210.15003983704383

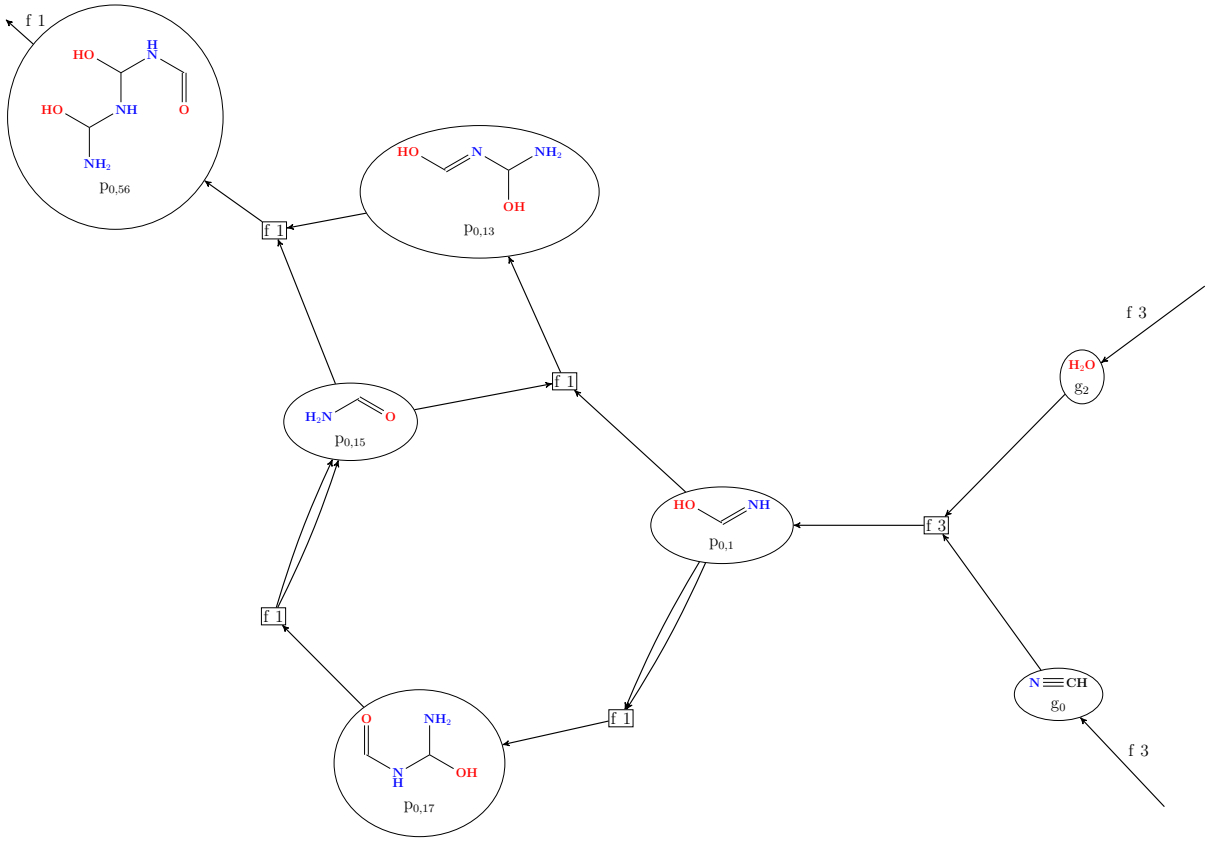
ΔG = -37.057762214520196
ΔE = -0.08004192294563241
|E| = 6
|U| = 4

0.3.5 Solution 4

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240678 -3.000000 34
p_{0,15}     0  0   -10.625174 -3.000000 32
p_{0,17}     0  0   -21.248887 1.000000  31
p_{0,1}      0  0   -10.610080 -3.000000 1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/067_dg_0_11100_f_0_4_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.761341	−3.0	−27866.738696	1
$p_{0,13}$	0	0	−55767.391129	−3.0	−55777.368484	34
$p_{0,15}$	0	0	−27896.389963	−3.0	−27906.367318	32
$p_{0,17}$	0	0	−55788.944315	1.0	−55785.61853	31
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−102.940043	−102.940043
40	$p_{0,1}, p_{0,1},$	$p_{0,17},$	1	−59.532695	−59.532695
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	−2.308155	−2.308155
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	−7.43028	−7.43028
237	$p_{0,17},$	$p_{0,15}, p_{0,15},$	1	−19.724549	−19.724549
Sum					−210.15003983704278

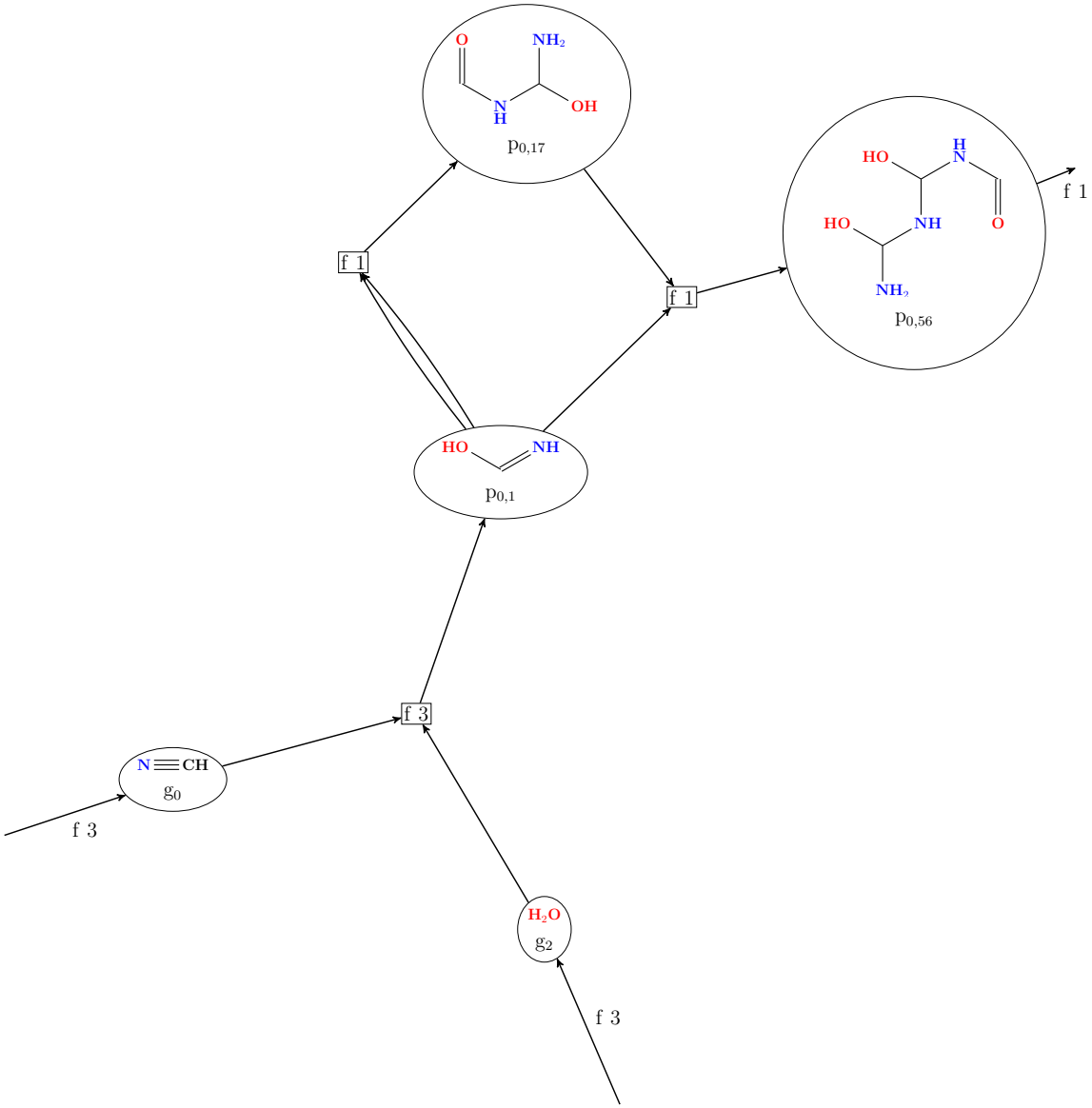
ΔG = -39.7815797266497
ΔE = -0.080041922945632
|E| = 7
|U| = 5

0.3.6 Solution 5

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  -3.000000 0
p_{0,17}     0  0   -21.248844 1.000000  65
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/076_dg_0_11100_f_0_5_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	−3.0	−13316.122316	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,17}$	0	0	−55788.832737	1.0	−55785.506952	65
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−84.781257	−84.781257
40	$p_{0,1}, p_{0,1},$	$p_{0,17},$	1	−77.579904	−77.579904
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−38.653956	−38.653956
Sum					−210.1500398370419

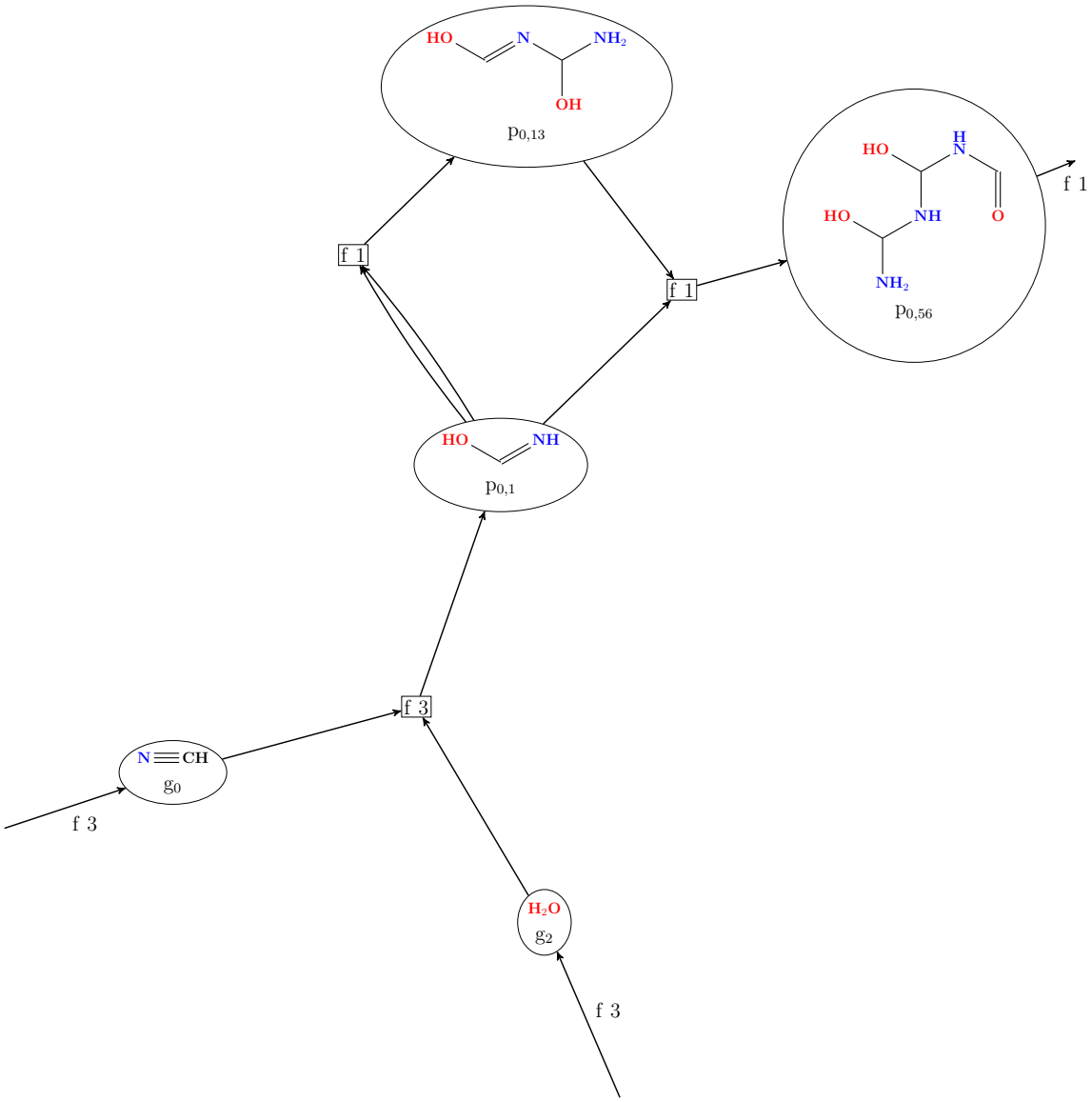
ΔG = -37.05776247707016
ΔE = -0.08004192294563167
|E| = 5
|U| = 3

0.3.7 Solution 6

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G           logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240635 1.000000  3
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/085_dg_0_11100_f_0_6_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,13}$	0	0	−55767.279594	1.0	−55763.953809	3
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−93.86065	−93.86065
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	−56.026761	−56.026761
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	−60.207098	−60.207098
Sum					−210.1500398370419

ΔG = -39.781580251749624
ΔE = -0.08004192294563167

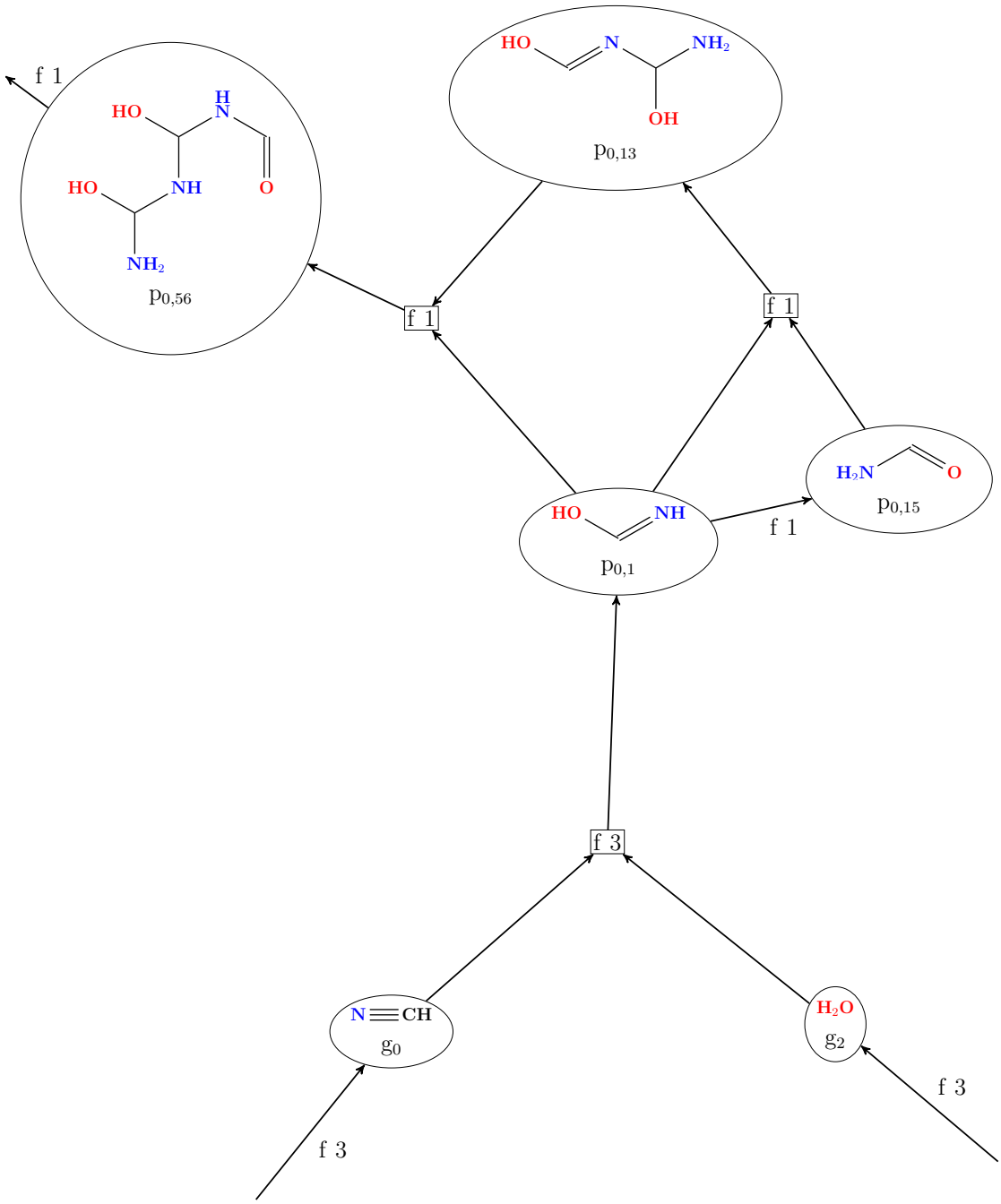
$|E| = 5$
$|U| = 3$

0.3.8 Solution 7

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240678 1.000000  65
p_{0,15}     0  0   -10.625174 -3.000000 33
p_{0,1}      0  0   -10.610101 1.000000  1
p_{0,56}     0  1   -31.869260 1.000000  67
```

Filtered Graph



File: `out/094_dg_0_11100_f_0_7_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.817054	1.0	−27853.491269	1
$p_{0,13}$	0	0	−55767.391129	1.0	−55764.065344	65
$p_{0,15}$	0	0	−27896.389963	−3.0	−27906.367318	33
$p_{0,56}$	0	1	−83672.731446	1.0	−83669.405661	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−93.916364	−93.916364
36	$p_{0,1},$	$p_{0,15},$	1	−48.652302	−48.652302
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	−7.374567	−7.374567
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	−50.793111	−50.793111
Sum					−210.15003983703997

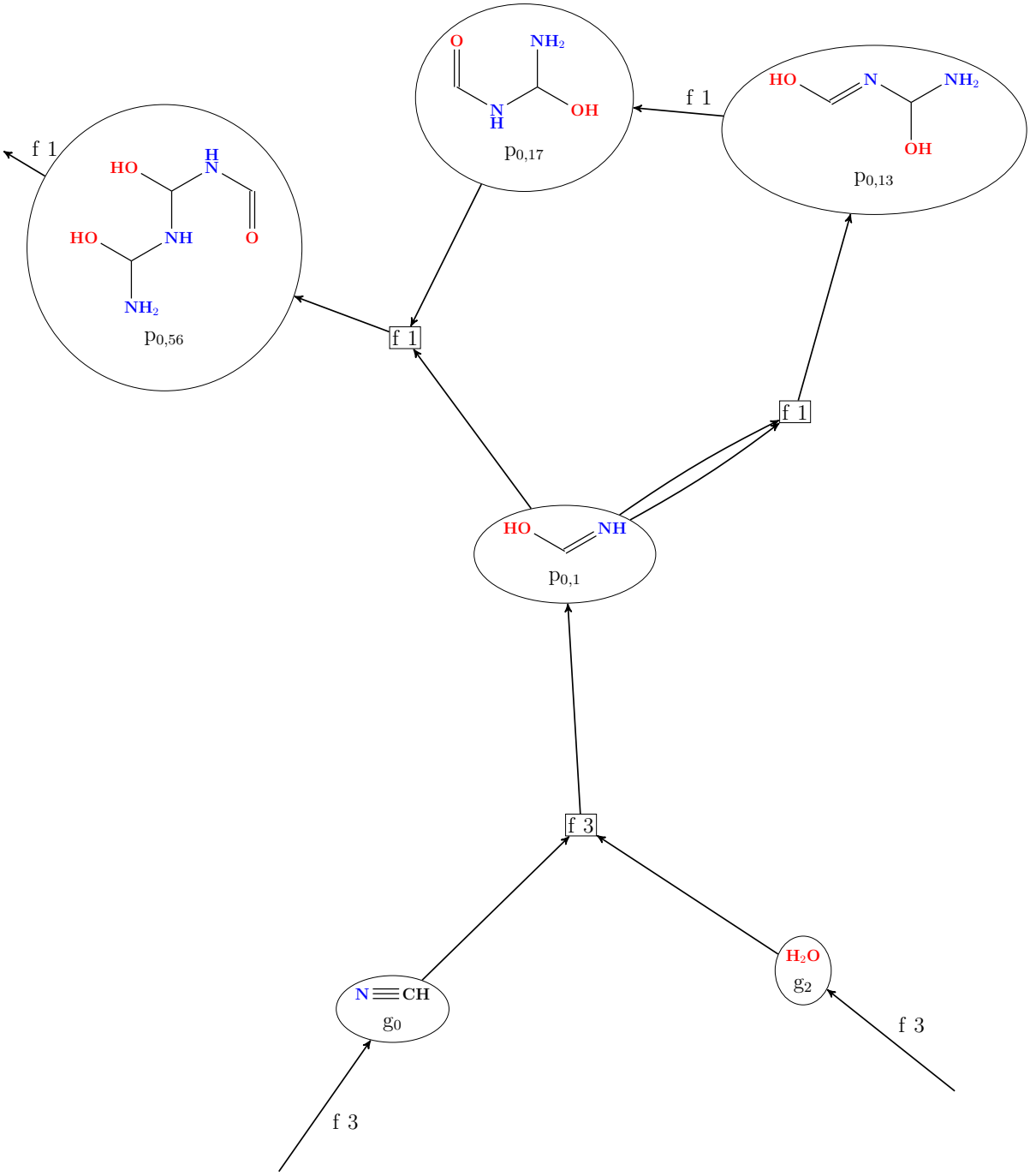
ΔG = -38.856906321371056
ΔE = -0.08004192294563094
|E| = 6
|U| = 4

0.3.9 Solution 8

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  -3.000000 0
g_{2}        3  0   -5.068043  -3.000000 0
p_{0,13}     0  0   -21.240635 1.000000  64
p_{0,17}     0  0   -21.248844 1.000000  65
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/103_dg_0_11100_f_0_8_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	−3.0	−14469.002933	0
g_2	3	0	−13306.144961	−3.0	−13316.122316	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,13}$	0	0	−55767.279594	1.0	−55763.953809	64
$p_{0,17}$	0	0	−55788.832737	1.0	−55785.506952	65
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−75.701864	−75.701864
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	−56.026761	−56.026761
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−38.653956	−38.653956
250	$p_{0,13},$	$p_{0,17},$	1	−21.553143	−21.553143
Sum					−210.15003983703912

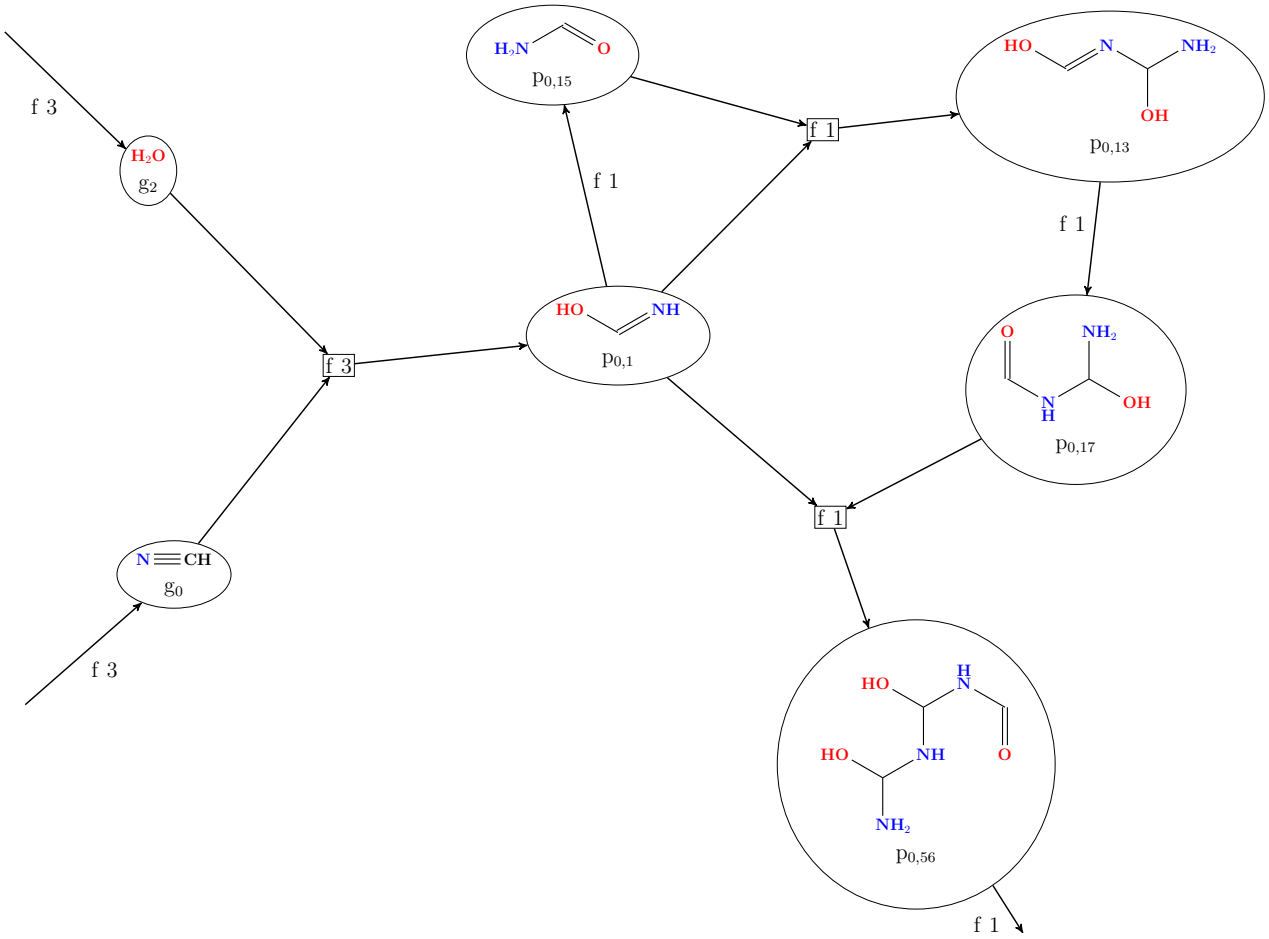
ΔG = -34.3339447023907
ΔE = -0.08004192294563062
|E| = 6
|U| = 4

0.3.10 Solution 9

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,13}     0  0   -21.240635 1.000000  64
p_{0,15}     0  0   -10.625195 -3.000000 62
p_{0,17}     0  0   -21.248844 -3.000000 65
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/112_dg_0_11100_f_0_9_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,13}$	0	0	−55767.279594	1.0	−55763.953809	64
$p_{0,15}$	0	0	−27896.445756	−3.0	−27906.423111	62
$p_{0,17}$	0	0	−55788.832737	−3.0	−55798.810092	65
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−93.86065	−93.86065
36	$p_{0,1},$	$p_{0,15},$	1	−48.763808	−48.763808
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	−7.262953	−7.262953
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−29.574562	−29.574562
250	$p_{0,13},$	$p_{0,17},$	1	−30.632536	−30.632536
Sum					−210.15003983703724

ΔG = -39.7815797266497
ΔE = -0.0800419229456299

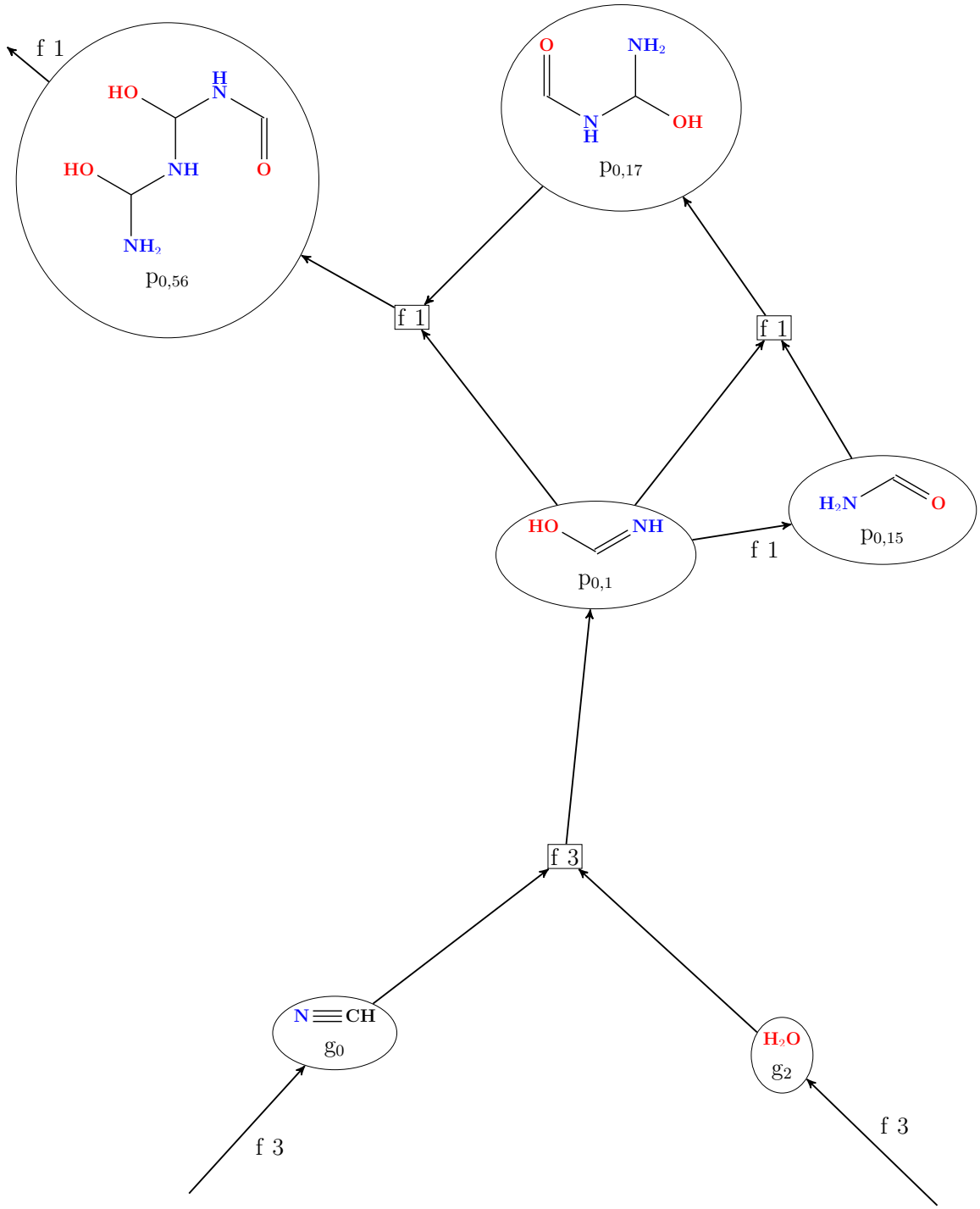
$|E| = 7$
$|U| = 5$

0.3.11 Solution 10

Overall Data

```
Objective value (non-integral): -0.0800419
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  -3.000000 0
p_{0,15}     0  0   -10.625195 -3.000000 2
p_{0,17}     0  0   -21.248844 1.000000  4
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/121_dg_0_11100_f_0_10_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	−3.0	−13316.122316	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,15}$	0	0	−27896.445756	−3.0	−27906.423111	2
$p_{0,17}$	0	0	−55788.832737	1.0	−55785.506952	4
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−84.781257	−84.781257
36	$p_{0,1},$	$p_{0,15},$	1	−48.763808	−48.763808
183	$p_{0,1}, p_{0,15},$	$p_{0,17},$	1	−28.816096	−28.816096
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−38.653956	−38.653956
Sum					−210.1500398370345

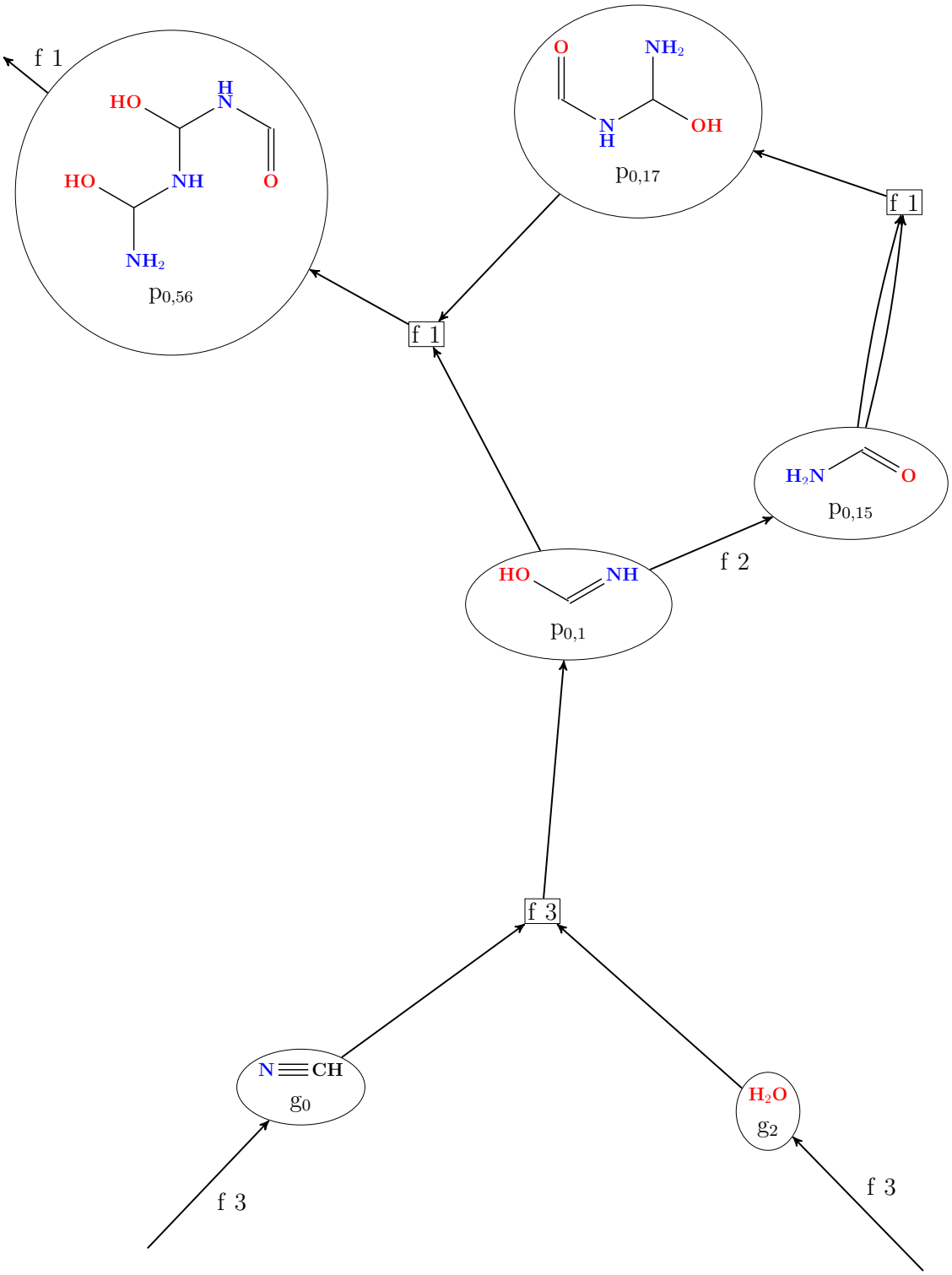
ΔG = -37.05776247707016
ΔE = -0.08004192294562885
|E| = 6
|U| = 4

0.3.12 Solution 11

Overall Data

```
Objective value (non-integral): -0.0649482
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  0
p_{0,15}     0  0   -10.625174 1.000000  2
p_{0,17}     0  0   -21.248844 0.261034  45
p_{0,1}      0  0   -10.610080 1.000000  1
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/130_dg_0_11100_f_0_11_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	0
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	1
$p_{0,15}$	0	0	−27896.389963	1.0	−27893.064178	2
$p_{0,17}$	0	0	−55788.832737	0.261034	−55787.964594	45
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−93.86065	−93.86065
36	$p_{0,1},$	$p_{0,15},$	2	−39.628622	−39.628622
180	$p_{0,15}, p_{0,15},$	$p_{0,17},$	1	0.0	0.0
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	−36.976615	−36.976615
Sum					−170.52141773325144

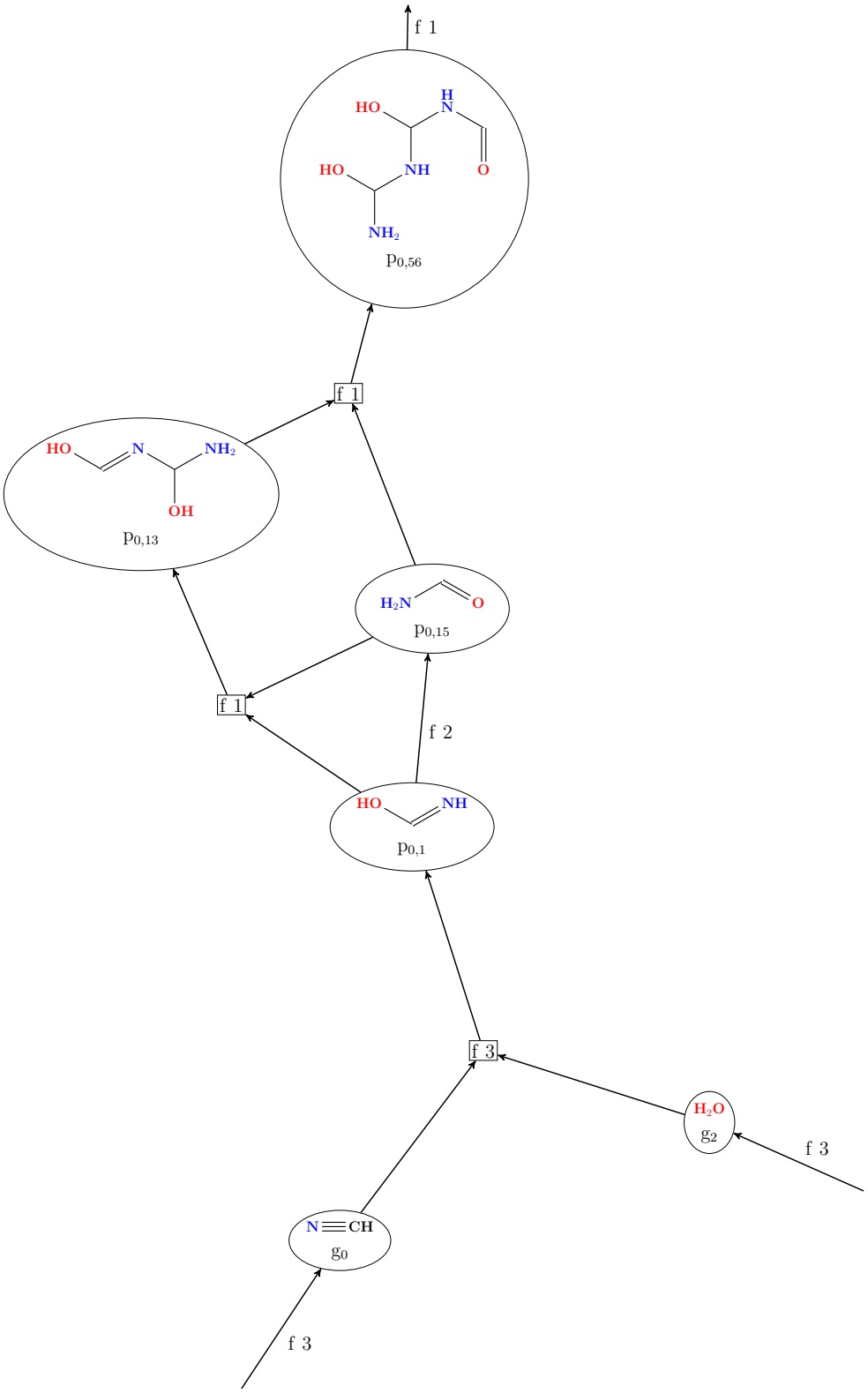
ΔG = -39.781580251749624
ΔE = -0.06494817792739233
|E| = 7
|U| = 4

0.3.13 Solution 12

Overall Data

```
Objective value (non-integral): -0.0649482
Vertex/Graph In Out G          logK      t_order
g_{0}        3  0   -5.507152  1.000000  0
g_{2}        3  0   -5.068043  1.000000  20
p_{0,13}     0  0   -21.240678 -3.000000 44
p_{0,15}     0  0   -10.625174 1.000000  22
p_{0,1}      0  0   -10.610080 1.000000  21
p_{0,56}     0  1   -31.869324 -3.000000 67
```

Filtered Graph



File: `out/139_dg_0_11100_f_0_12_filt`

Vertex	InFlow	OutFlow	$x_v^{\Delta G^0}$	x_v^K	$x_v^{\Delta G}$	t_v
g_0	3	0	−14459.025578	1.0	−14455.699793	0
g_2	3	0	−13306.144961	1.0	−13302.819176	20
$p_{0,1}$	0	0	−27856.761341	1.0	−27853.435556	21
$p_{0,13}$	0	0	−55767.391129	−3.0	−55777.368484	44
$p_{0,15}$	0	0	−27896.389963	1.0	−27893.064178	22
$p_{0,56}$	0	1	−83672.898792	−3.0	−83682.876147	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\overline{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	−93.86065	−93.86065
36	$p_{0,1},$	$p_{0,15},$	2	−39.628622	−39.628622
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	−11.387548	−11.387548
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	−25.589067	−25.589067
Sum					−170.52141773324485

ΔG = -39.781580251749624
ΔE = -0.06494817792738981
|E| = 7
|U| = 4