

# Summary

December 7, 2024

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## 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}

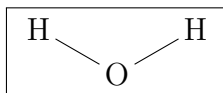


File: out/005\_g\_1\_10300000

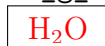


File: out/007\_g\_1\_11310100

### 0.1.3 g\_{2}



File: out/009\_g\_2\_10300000



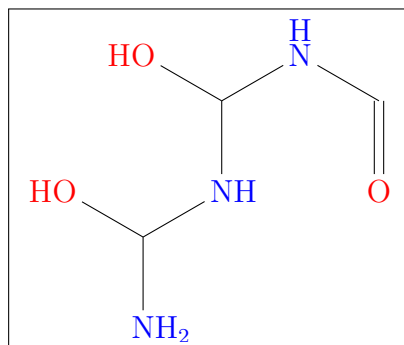
File: out/011\_g\_2\_11310100

## 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

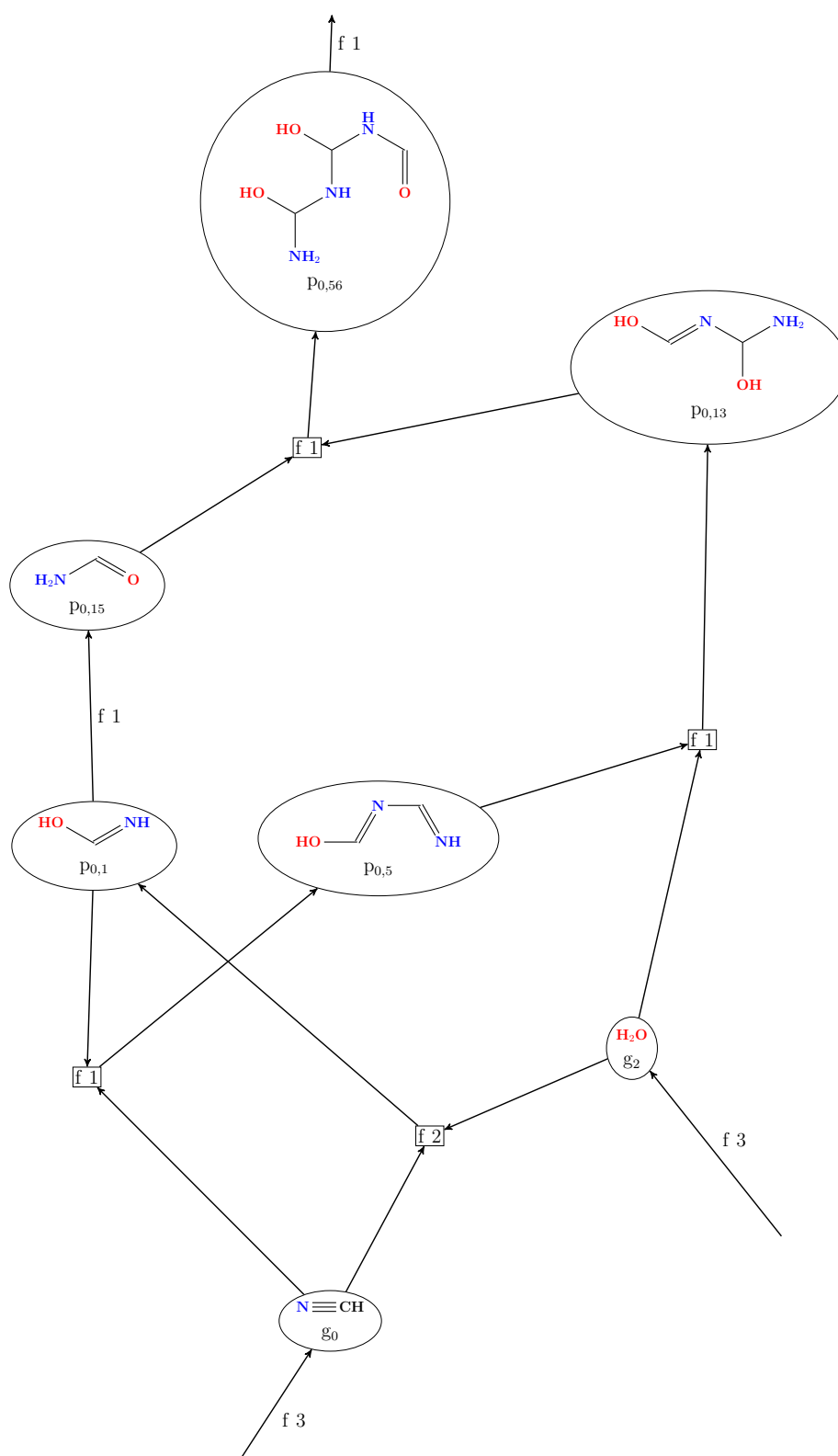
### 0.3.1 Solution 0

#### Overall Data

Objective value (non-integral): -0.101809

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	-3.000000	64
p_{0,15}	0	0	-10.625174	-8.977901	2
p_{0,1}	0	0	-10.610101	-3.000000	1
p_{0,56}	0	1	-31.869324	-9.000000	67
p_{0,5}	0	0	-16.158998	-3.000000	63

## Filtered Graph



File: out/029\_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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	0
$p_{0,1}$	0	0	-27856.817054	-3.0	-27866.79441	1
$p_{0,5}$	0	0	-42425.44262	-3.0	-42435.419975	63
$p_{0,13}$	0	0	-55767.279594	-3.0	-55777.256949	64
$p_{0,15}$	0	0	-27896.389963	-8.977901	-27926.248531	2
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	-82.342632	-82.342632
14	$g_0, p_{0,1},$	$p_{0,5},$	1	-100.296105	-100.296105
36	$p_{0,1},$	$p_{0,15},$	1	-58.11214	-58.11214
123	$g_2, p_{0,5},$	$p_{0,13},$	1	-26.388129	-26.388129
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	0.006113	0.006113
Sum					-267.299666681548

$$\Delta G = -34.94755206098332$$

$$\Delta E = -0.10180906622957629$$

$$|E| = 6$$

$$|U| = 5$$

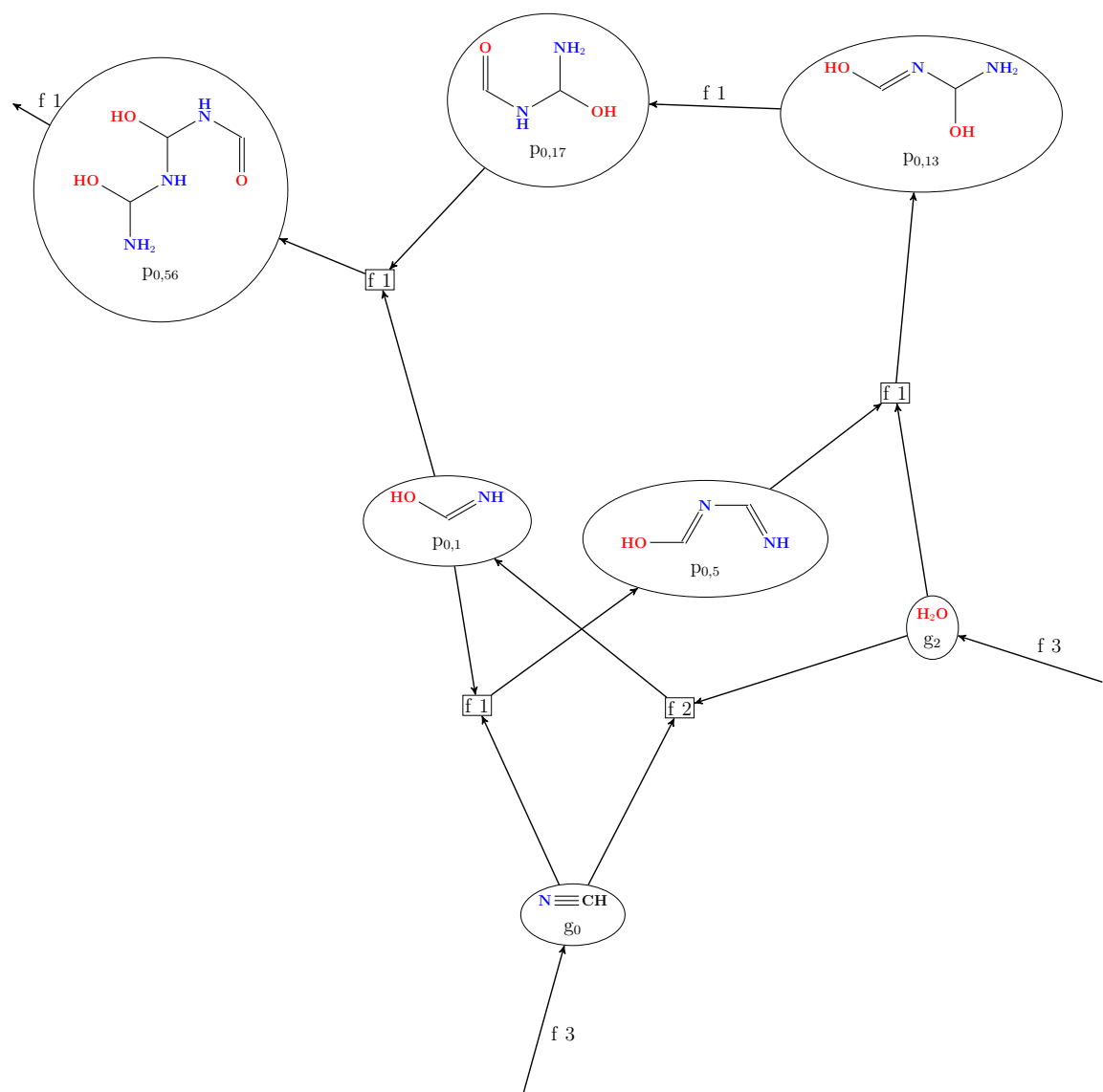
### 0.3.2 Solution 1

#### Overall Data

Objective value (non-integral): -0.101809

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	-21.240678	-9.000000	33
$p_{\{0,17\}}$	0	0	-21.248887	-3.000000	35
$p_{\{0,1\}}$	0	0	-10.610101	-3.000000	31
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	67
$p_{\{0,5\}}$	0	0	-16.158998	-3.000000	32

Filtered Graph



File: out/040\_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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	0
$p_{0,1}$	0	0	-27856.817054	-3.0	-27866.79441	31
$p_{0,5}$	0	0	-42425.44262	-3.0	-42435.419975	32
$p_{0,13}$	0	0	-55767.391129	-9.0	-55797.323194	33
$p_{0,17}$	0	0	-55788.944315	-3.0	-55798.92167	35
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	-82.342632	-82.342632
14	$g_0, p_{0,1},$	$p_{0,5},$	1	-100.296105	-100.296105
123	$g_2, p_{0,5},$	$p_{0,13},$	1	-45.107431	-45.107431
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	-36.441306	-36.441306
250	$p_{0,13},$	$p_{0,17},$	1	-2.945419	-2.945419
Sum					-267.299666681548

$$\Delta G = -34.94755179843335$$

$$\Delta E = -0.10180906622957629$$

$$|E| = 6$$

$$|U| = 5$$

### 0.3.3 Solution 2

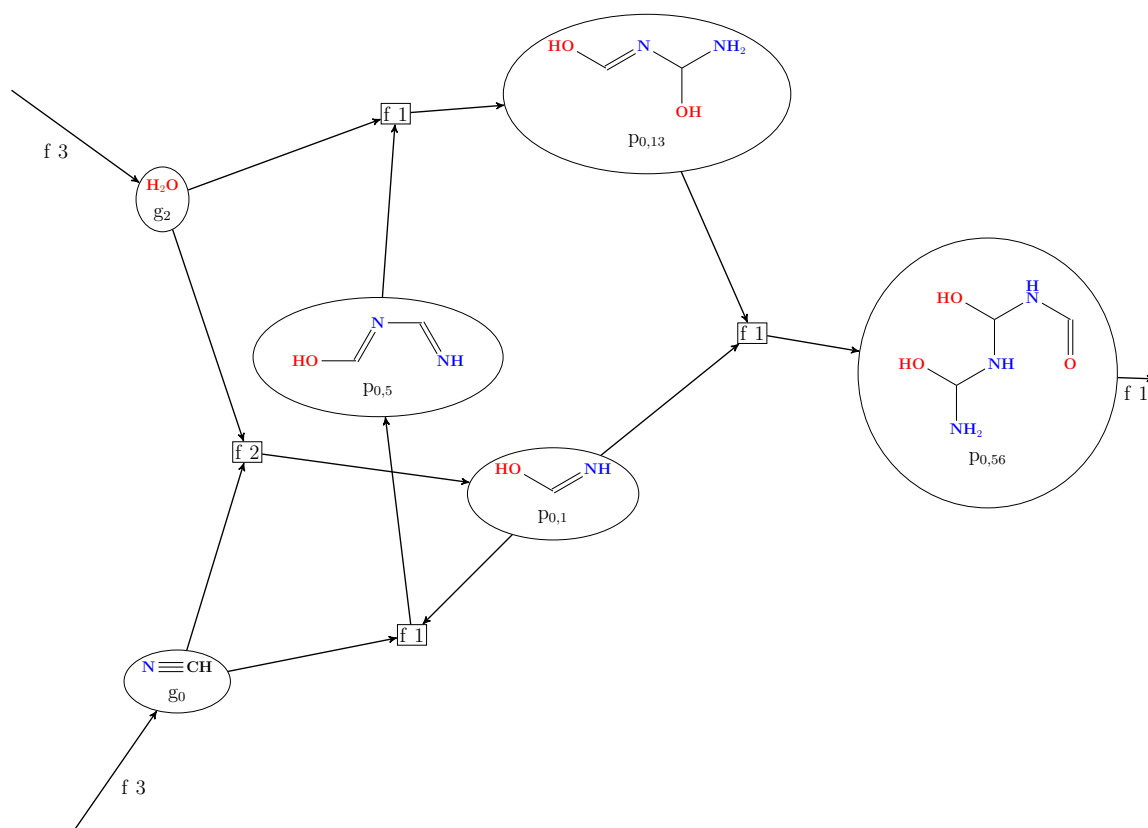
#### Overall Data

Objective value (non-integral): -0.101809

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	20
$p_{\{0,13\}}$	0	0	-21.240678	-9.000000	44
$p_{\{0,1\}}$	0	0	-10.610101	-3.000000	22
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	67
$p_{\{0,5\}}$	0	0	-16.158998	-3.000000	23



## 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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	20
$p_{0,1}$	0	0	-27856.817054	-3.0	-27866.79441	22
$p_{0,5}$	0	0	-42425.44262	-3.0	-42435.419975	23
$p_{0,13}$	0	0	-55767.391129	-9.0	-55797.323194	44
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	2	-82.342632	-82.342632
14	$g_0, p_{0,1},$	$p_{0,5},$	1	-100.296105	-100.296105
123	$g_2, p_{0,5},$	$p_{0,13},$	1	-45.107431	-45.107431
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	-39.386725	-39.386725
Sum					-267.29966668154714

$$\Delta G = -34.94755206098332$$

$$\Delta E = -0.10180906622957597$$

$$|E| = 5$$

$$|U| = 4$$

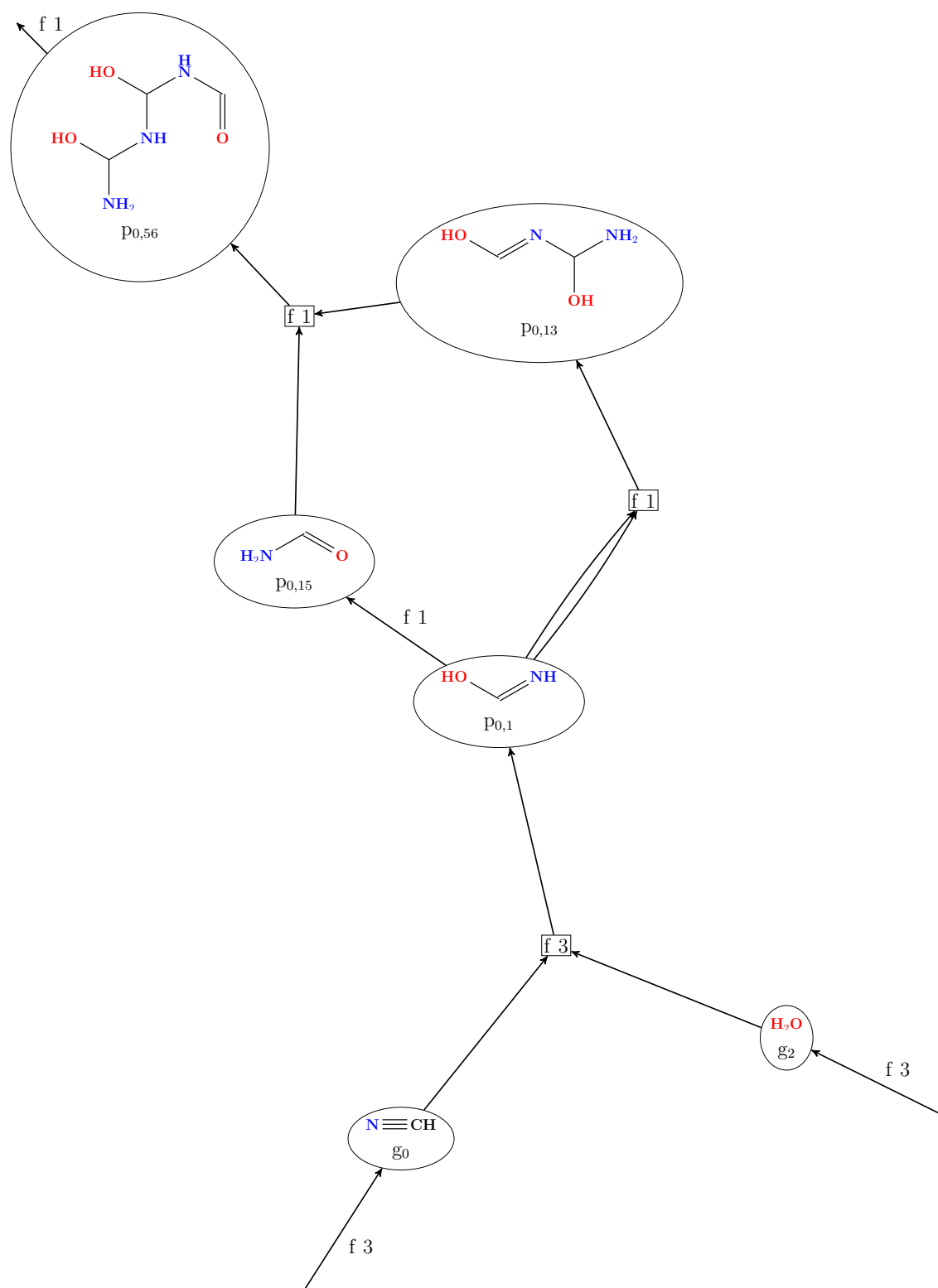
### 0.3.4 Solution 3

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-3.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,13\}}$	0	0	-21.240678	-3.000000	3
$p_{\{0,15\}}$	0	0	-10.625195	-8.923947	2
$p_{\{0,1\}}$	0	0	-10.610101	-9.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.817054	-9.0	-27886.74912	1
$p_{0,13}$	0	0	-55767.391129	-3.0	-55777.368484	3
$p_{0,15}$	0	0	-27896.445756	-8.923947	-27926.124885	2
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-82.342632	-82.342632
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	-7.237602	-7.237602
36	$p_{0,1},$	$p_{0,15},$	1	-39.392838	-39.392838
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	0.006113	0.006113
Sum					-184.9572181040449

$$\Delta G = -29.36522181636997$$

$$\Delta E = -0.07044648390836461$$

$$|E| = 6$$

$$|U| = 4$$

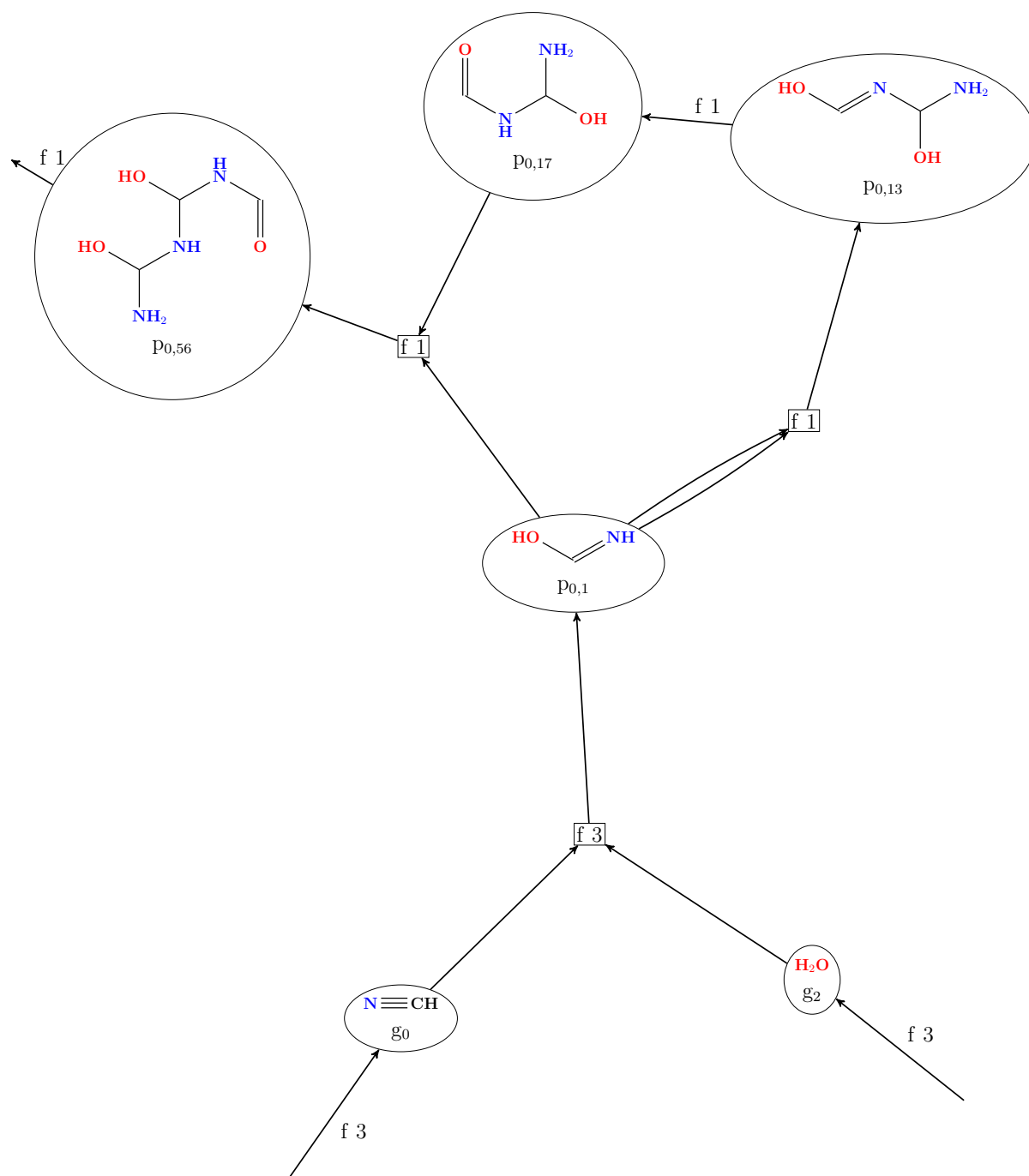
### 0.3.5 Solution 4

#### Overall Data

Objective value (non-integral): -0.0704465

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	-3.000000	3
$p_{\{0,17\}}$	0	0	-21.248844	-9.000000	65
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	1
$p_{0,13}$	0	0	-55767.279594	-3.0	-55777.256949	3
$p_{0,17}$	0	0	-55788.832737	-9.0	-55818.764803	65
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-82.286918	-82.286918
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	-44.453029	-44.453029
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	-18.00083	-18.00083
250	$p_{0,13},$	$p_{0,17},$	1	-40.16091	-40.16091
Sum					-184.9572181040449

$$\Delta G = -34.947551273333424$$

$$\Delta E = -0.07044648390836461$$

$$|E| = 6$$

$$|U| = 4$$

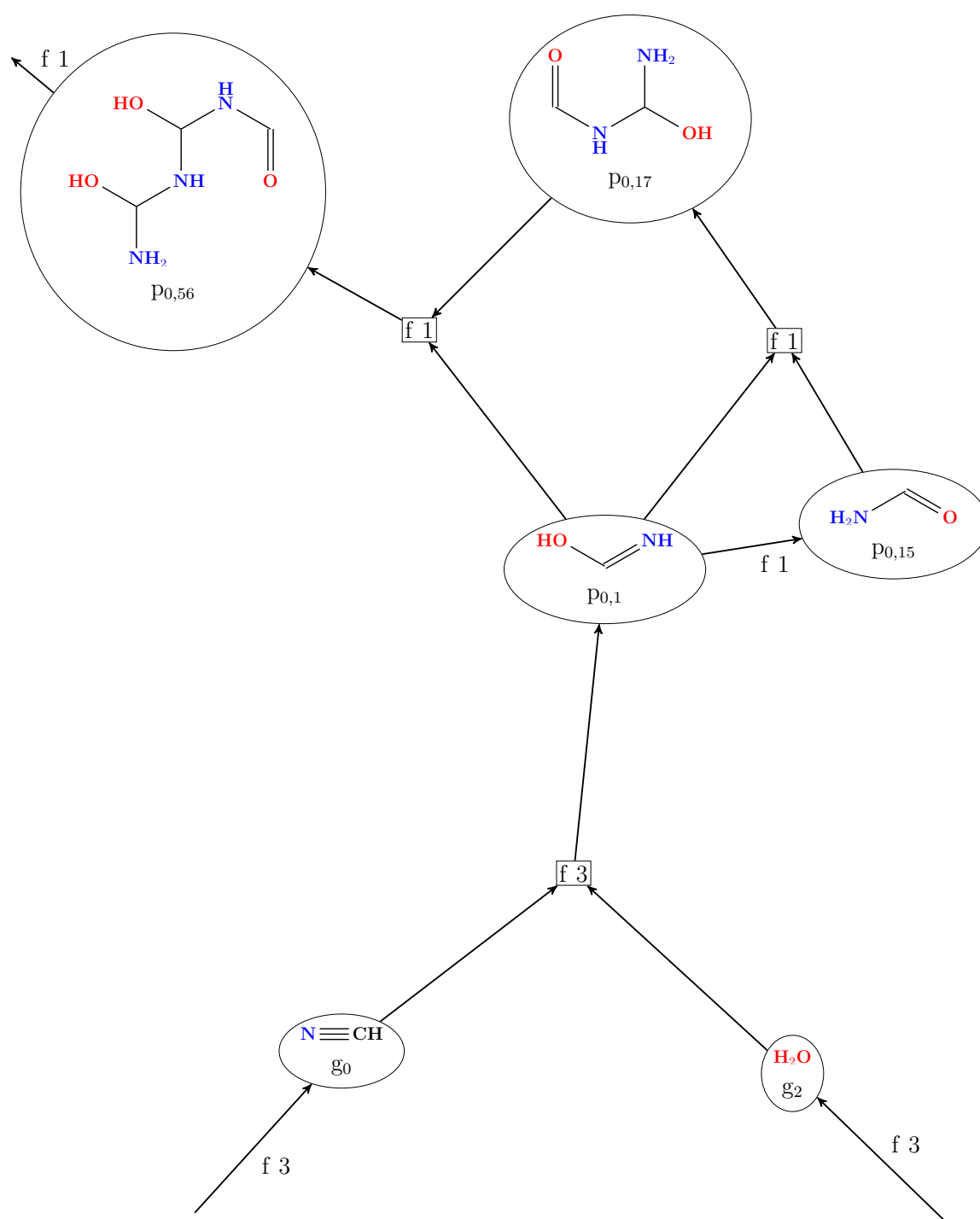
### 0.3.6 Solution 5

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-3.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,15\}}$	0	0	-10.625174	-3.000000	2
$p_{\{0,17\}}$	0	0	-21.248844	-3.000000	4
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	1
$p_{0,15}$	0	0	-27896.389963	-3.0	-27906.367318	2
$p_{0,17}$	0	0	-55788.832737	-3.0	-55798.810092	4
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-63.679151	-63.679151
36	$p_{0,1},$	$p_{0,15},$	1	-39.628622	-39.628622
183	$p_{0,1}, p_{0,15},$	$p_{0,17},$	1	-26.37755	-26.37755
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	-36.608598	-36.608598
Sum					-184.9572181040449

$$\Delta G = -29.365221553820003$$

$$\Delta E = -0.07044648390836461$$

$$|E| = 6$$

$$|U| = 4$$

### 0.3.7 Solution 6

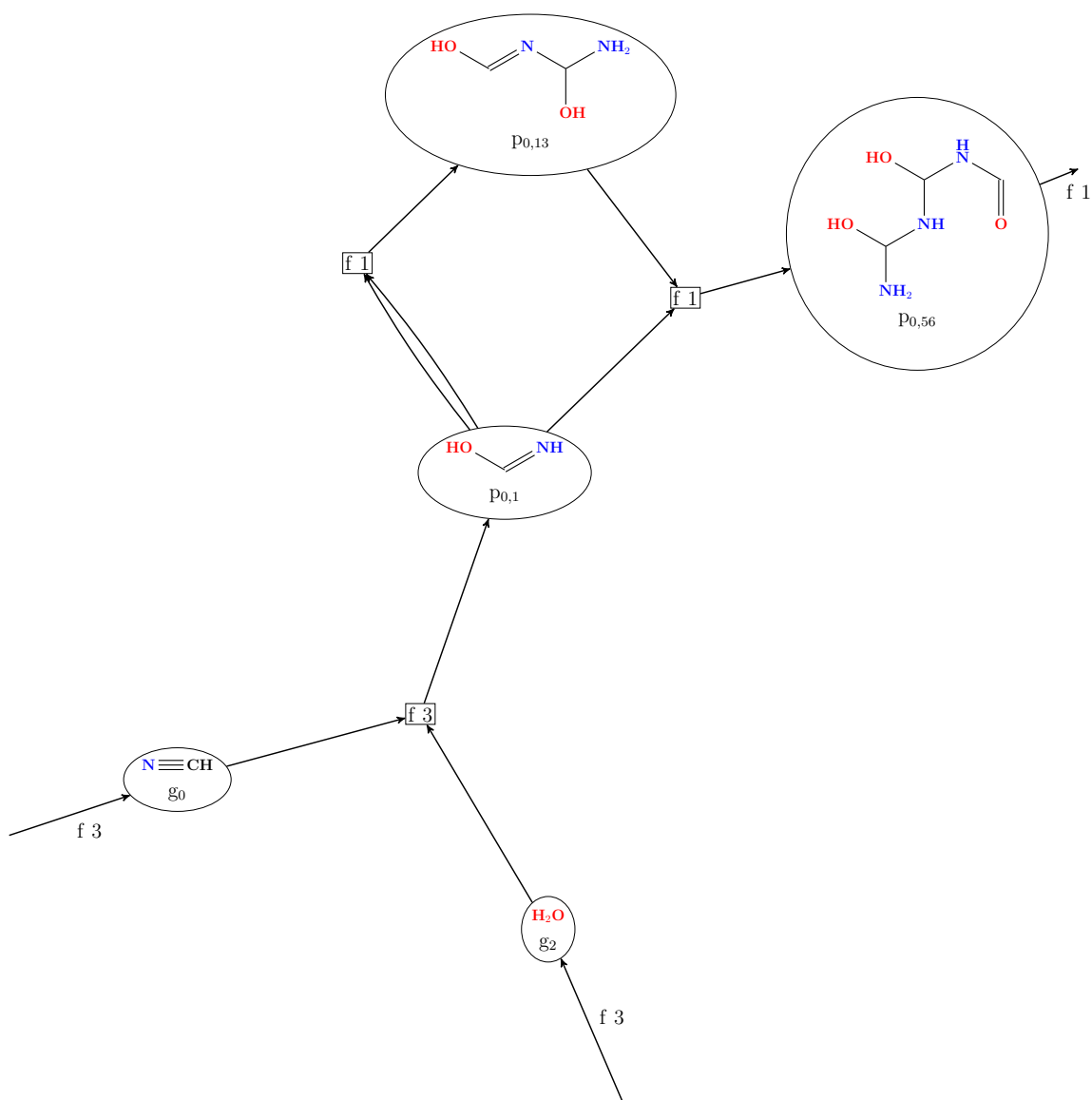
#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-9.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,13\}}$	0	0	-21.240635	-3.000000	45
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	21
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-9.0	-14488.957643	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	21
$p_{0,13}$	0	0	-55767.279594	-3.0	-55777.256949	45
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-45.071384	-45.071384
30	$p_{0,1}, p_{0,1},$	$p_{0,13},$	1	-44.453029	-44.453029
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	-58.161741	-58.161741
Sum					-184.95721810404407

$$\Delta G = -23.78289157175662$$

$$\Delta E = -0.07044648390836429$$

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

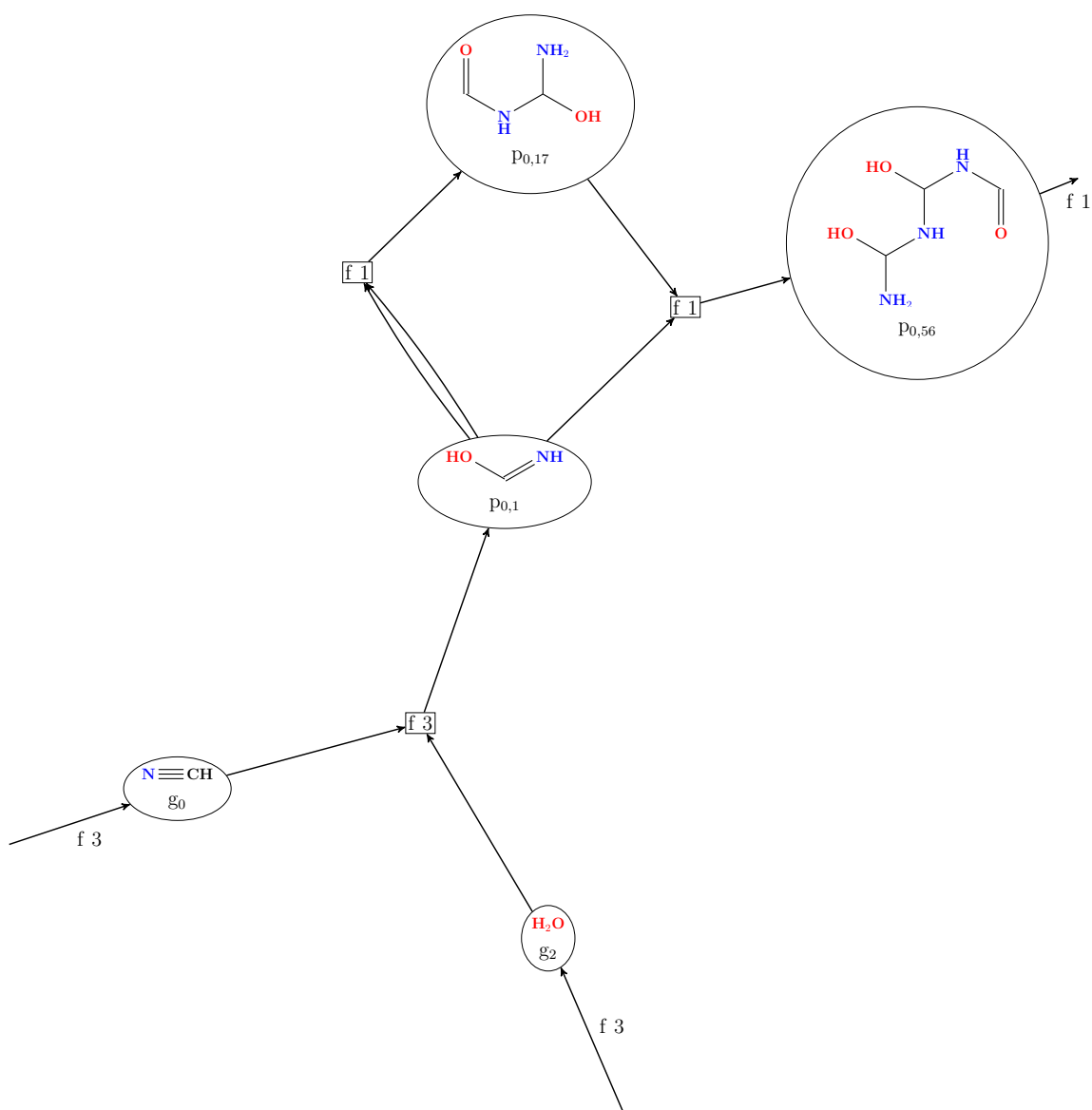
### 0.3.8 Solution 7

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-9.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,17\}}$	0	0	-21.248844	-3.000000	3
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-9.0	-14488.957643	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	1
$p_{0,17}$	0	0	-55788.832737	-3.0	-55798.810092	3
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-45.071384	-45.071384
40	$p_{0,1}, p_{0,1},$	$p_{0,17},$	1	-66.006172	-66.006172
196	$p_{0,1}, p_{0,17},$	$p_{0,56},$	1	-36.608598	-36.608598
Sum					-184.95721810404407

$$\Delta G = -23.78289157175662$$

$$\Delta E = -0.07044648390836429$$

$$|E| = 5$$

$$|U| = 3$$

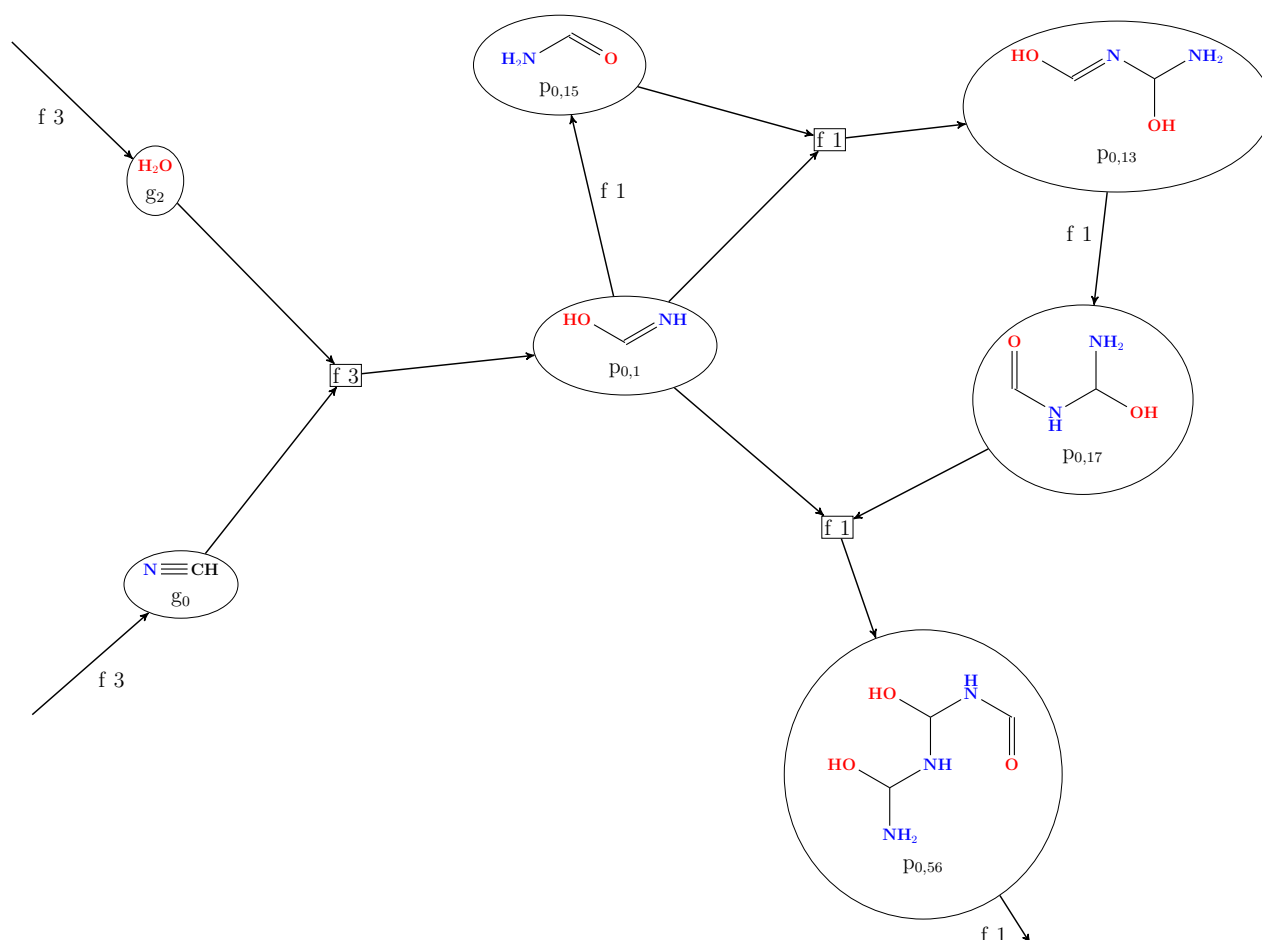
### 0.3.9 Solution 8

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-9.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,13\}}$	0	0	-21.240635	-3.000000	44
$p_{\{0,15\}}$	0	0	-10.625195	-4.539592	22
$p_{\{0,17\}}$	0	0	-21.248844	-9.000000	45
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	21
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-9.0	-14488.957643	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	21
$p_{0,13}$	0	0	-55767.279594	-3.0	-55777.256949	44
$p_{0,15}$	0	0	-27896.445756	-4.539592	-27911.543462	22
$p_{0,17}$	0	0	-55788.832737	-9.0	-55818.764803	45
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2$	$p_{0,1}$	3	-45.071384	-45.071384
36	$p_{0,1}$	$p_{0,15}$	1	-44.459142	-44.459142
192	$p_{0,1}, p_{0,15}$	$p_{0,13}$	1	0.006113	0.006113
196	$p_{0,1}, p_{0,17}$	$p_{0,56}$	1	-18.00083	-18.00083
250	$p_{0,13}$	$p_{0,17}$	1	-40.16091	-40.16091
Sum				-184.95721810404407	

$$\Delta G = -23.782891309206658$$

$$\Delta E = -0.07044648390836429$$

$$|E| = 7$$

$$|U| = 5$$

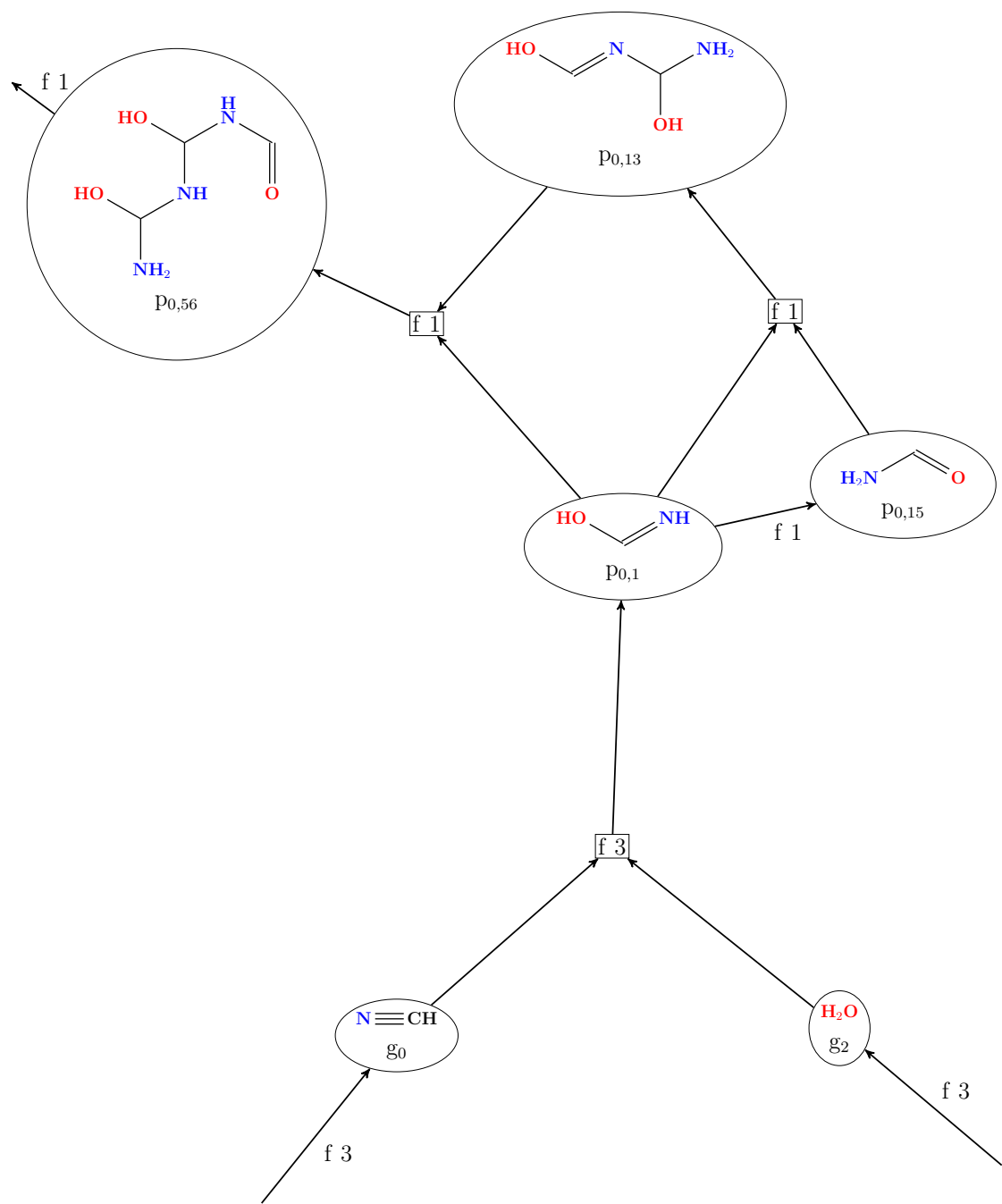
### 0.3.10 Solution 9

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-3.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,13\}}$	0	0	-21.240678	-9.000000	65
$p_{\{0,15\}}$	0	0	-10.625174	-4.575581	63
$p_{\{0,1\}}$	0	0	-10.610101	-9.000000	1
$p_{\{0,56\}}$	0	1	-31.869260	-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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.817054	-9.0	-27886.74912	1
$p_{0,13}$	0	0	-55767.391129	-9.0	-55797.323194	65
$p_{0,15}$	0	0	-27896.389963	-4.575581	-27911.607362	63
$p_{0,56}$	0	1	-83672.731446	-3.0	-83682.708802	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-82.342632	-82.342632
36	$p_{0,1},$	$p_{0,15},$	1	-25.851482	-25.851482
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	0.006113	0.006113
263	$p_{0,1}, p_{0,13},$	$p_{0,56},$	1	-2.003845	-2.003845
Sum					-184.95721810404322

$$\Delta G = -27.487710746080054$$

$$\Delta E = -0.07044648390836397$$

$$|E| = 6$$

$$|U| = 4$$

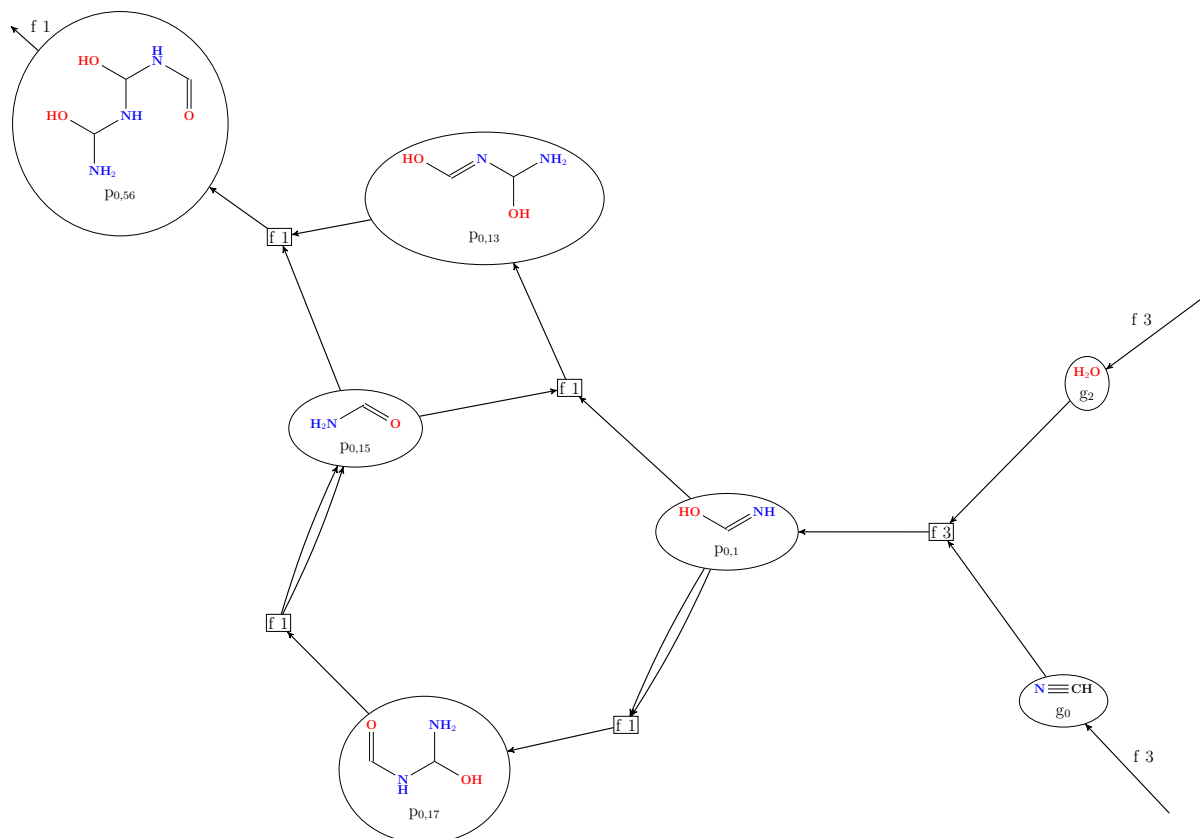
### 0.3.11 Solution 10

#### Overall Data

Objective value (non-integral): -0.0704465

Vertex/Graph	In	Out	G	logK	t_order
$g_{\{0\}}$	3	0	-5.507152	-3.000000	0
$g_{\{2\}}$	3	0	-5.068043	-9.000000	0
$p_{\{0,13\}}$	0	0	-21.240678	-5.183178	39
$p_{\{0,15\}}$	0	0	-10.625174	-6.758759	27
$p_{\{0,17\}}$	0	0	-21.248887	-9.000000	25
$p_{\{0,1\}}$	0	0	-10.610101	-3.000000	11
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	67

#### Filtered Graph



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	-9.0	-13336.077027	0
$p_{0,1}$	0	0	-27856.817054	-3.0	-27866.79441	11
$p_{0,13}$	0	0	-55767.391129	-5.183178	-55784.629265	39
$p_{0,15}$	0	0	-27896.389963	-6.758759	-27918.868143	27
$p_{0,17}$	0	0	-55788.944315	-9.0	-55818.87638	25
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-63.734865	-63.734865
40	$p_{0,1}, p_{0,1},$	$p_{0,17},$	1	-84.61409	-84.61409
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	0.006113	0.006113
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	0.006113	0.006113
237	$p_{0,17},$	$p_{0,15}, p_{0,15},$	1	-17.845765	-17.845765
Sum					-184.9572181040424

$$\Delta G = -29.36522129127004$$

$$\Delta E = -0.07044648390836365$$

$$|E| = 7$$

$$|U| = 5$$

### 0.3.12 Solution 11

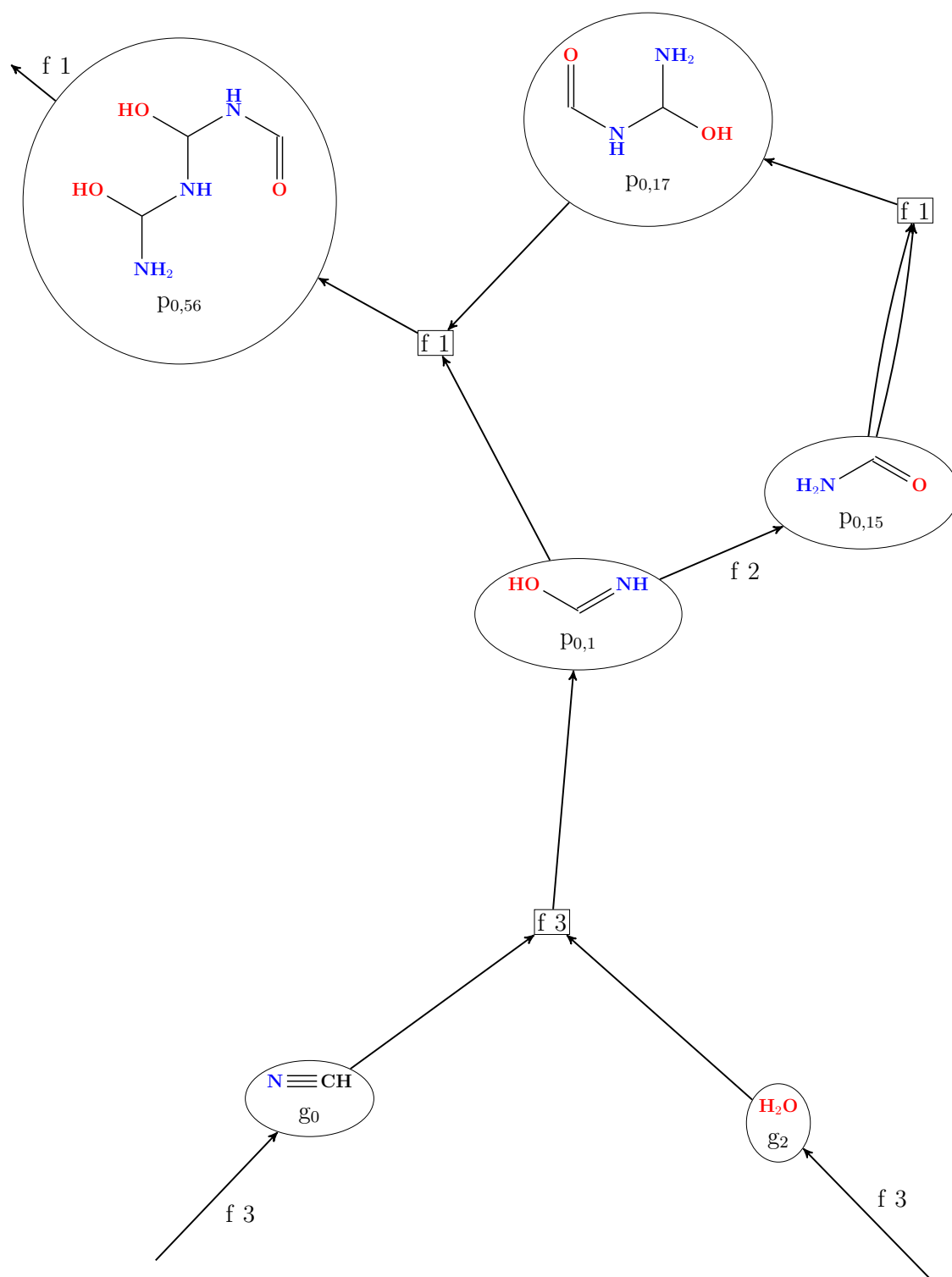
#### Overall Data

Objective value (non-integral): -0.0553527

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
$p_{\{0,15\}}$	0	0	-10.625174	-3.000000	2
$p_{\{0,17\}}$	0	0	-21.248844	-7.272755	65
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	1
$p_{0,15}$	0	0	-27896.389963	-3.0	-27906.367318	2
$p_{0,17}$	0	0	-55788.832737	-7.272755	-55813.020358	65
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-82.286918	-82.286918
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	-23.357525	-23.357525
Sum	-145.32859600024895				

$$\Delta G = -34.94755153588339$$

$$\Delta E = -0.05535273889012317$$

$$|E| = 7$$

$$|U| = 4$$

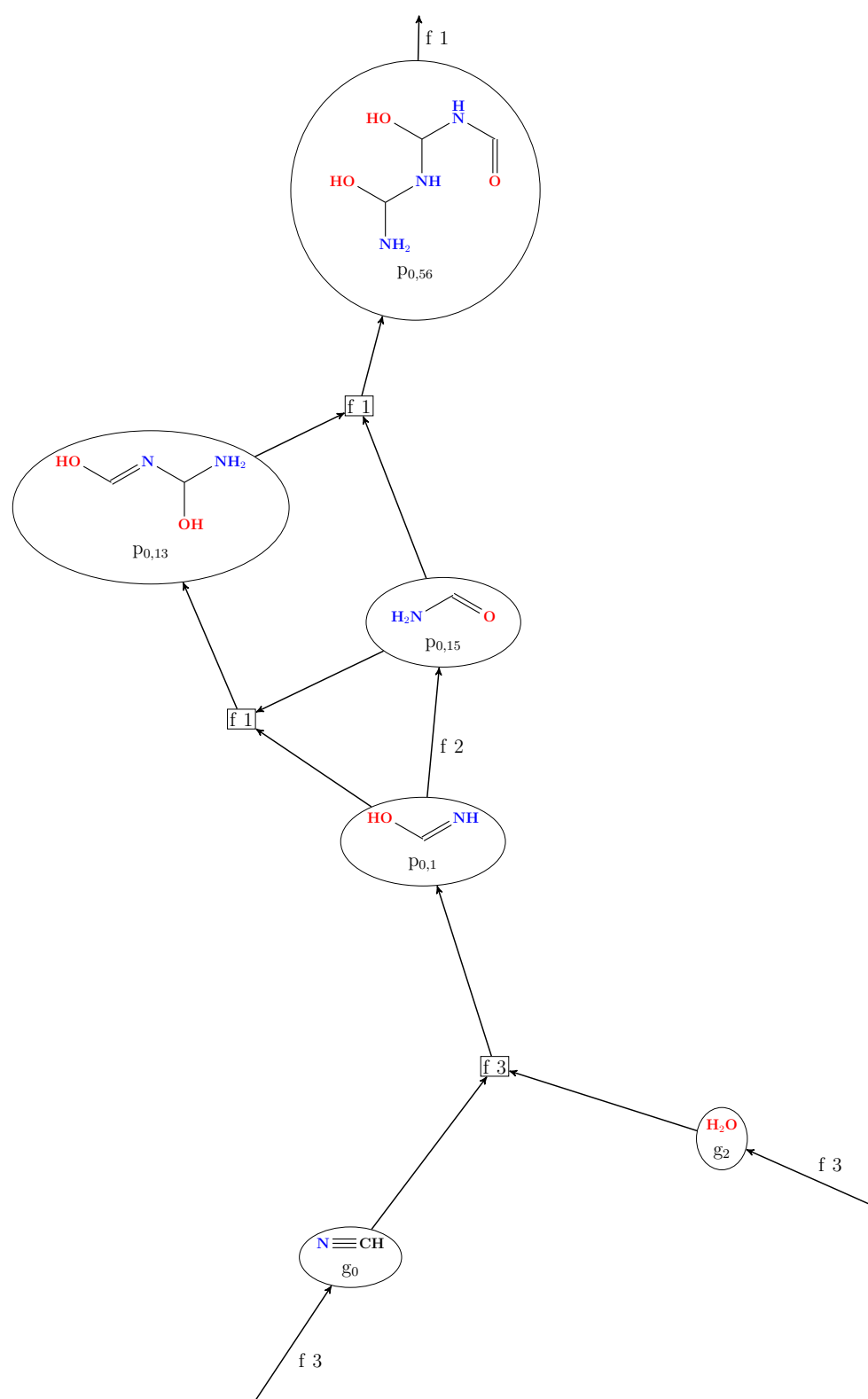
### 0.3.13 Solution 12

#### Overall Data

Objective value (non-integral): -0.0553527

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	-21.240678	-8.939966	64
$p_{\{0,15\}}$	0	0	-10.625174	-3.000000	2
$p_{\{0,1\}}$	0	0	-10.610080	-3.000000	1
$p_{\{0,56\}}$	0	1	-31.869324	-9.000000	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	-3.0	-14469.002933	0
$g_2$	3	0	-13306.144961	-3.0	-13316.122316	0
$p_{0,1}$	0	0	-27856.761341	-3.0	-27866.738696	1
$p_{0,13}$	0	0	-55767.391129	-8.939966	-55797.123534	64
$p_{0,15}$	0	0	-27896.389963	-3.0	-27906.367318	2
$p_{0,56}$	0	1	-83672.898792	-9.0	-83702.830857	67

Hyperedge	Source	Target	Flow	$x_e^{\Delta G}$	$\bar{x}_e^{\Delta G}$
6	$g_0, g_2,$	$p_{0,1},$	3	-82.286918	-82.286918
36	$p_{0,1},$	$p_{0,15},$	2	-39.628622	-39.628622
169	$p_{0,13}, p_{0,15},$	$p_{0,56},$	1	0.0	0.0
192	$p_{0,1}, p_{0,15},$	$p_{0,13},$	1	-23.357525	-23.357525
Sum					-145.32859600024813

$$\Delta G = -34.94755153588339$$

$$\Delta E = -0.055352738890122856$$

$$|E| = 7$$

$$|U| = 4$$