```
In[•]:= CF[ℰ_List] := CF /@ ℰ;
        CF[ℰ_] := Module[{vs, ps, c},
          vs = Union@Cases[{ℰ}, g__, ∞];
          Total[CoefficientRules[Expand[ℰ], vs] /. (ps_ → c_) :> Factor[c] (Times @@ vs^ps)]];

In[•]:= CF[g_{1,j^+,β}]

Out[•]=
        g_{1,j^+,β}

In[•]:= T_3 = T_1 T_2;
        ggRules_{s_,i_,j_} := { (* Generic g-Rules *)
          g_{γ_,i,β_} :> T_γ^s g_{γ,i^+,β} + (1 - T_γ^s) g_{γ,j^+,β}, g_{γ_,j,β_} :> g_{γ,j^+,β},
          g_{γ_,α_,i} :> T_γ^{-s} g_{γ,α,i^+}, g_{γ_,α_,j} :> g_{γ,α,j^+} + (1 - T_γ^{-s}) g_{γ,α,i^+}
          };
        rggRules_{s_,i_,j_} := { (* Reverse Generic g-Rules *)
          g_{γ_,i^+,β_} :> T_γ^{-s} g_{γ,i,β} + (1 - T_γ^{-s}) g_{γ,j,β}, g_{γ_,j^+,β_} :> g_{γ,j,β},
          g_{γ_,α_,i^+} :> T_γ^s g_{γ,α,i}, g_{γ_,α_,j^+} :> g_{γ,α,j} + (1 - T_γ^s) g_{γ,α,i}
          };
        CF[{g_{1,i^+,β}, g_{1,j^+,β}, g_{1,α,i^+}, g_{1,α,j^+}} /. rggRules_{1,i,j} /. ggRules_{1,i,j}]
        CF[{g_{1,i,β}, g_{1,j,β}, g_{1,α,i}, g_{1,α,j}} /. ggRules_{1,i,j} /. rggRules_{1,i,j}]

Out[•]=
        {g_{1,i,β}, g_{1,j,β}, g_{1,α,i}, g_{1,α,j}}

Out[•]=
        {g_{1,i^+,β}, g_{1,j^+,β}, g_{1,α,i^+}, g_{1,α,j^+}}
```

```
In[•]:= CF[g_{1,i^+,k} g_{2,i^+,k} g_{3,k,i^+} + g_{1,j^+,k} g_{2,j^+,k} g_{3,k,j^+} - g_{1,i,k} g_{2,i,k} g_{3,k,i} - g_{1,j,k} g_{2,j,k} g_{3,k,j} /. ggRules_{1,i,j}]

Out[•]=
        ((-1 + T_1) g_{1,j^+,k} g_{2,i^+,k} g_{3,k,i^+})/T_1 +
        ((-1 + T_2) g_{1,i^+,k} g_{2,j^+,k} g_{3,k,i^+})/T_2 - ((-T_1 - T_2 + 2 T_1 T_2) g_{1,j^+,k} g_{2,j^+,k} g_{3,k,i^+})/(T_1 T_2)

In[•]:= CF[g_{1,i^+,k} g_{2,i^+,k} g_{3,k,i^+} + g_{1,j^+,k} g_{2,j^+,k} g_{3,k,j^+} - g_{1,i,k} g_{2,i,k} g_{3,k,i} - g_{1,j,k} g_{2,j,k} g_{3,k,j} /. rggRules_{1,i,j}]

Out[•]=
        (-1 + T_1) g_{1,j,k} g_{2,i,k} g_{3,k,i} + (-1 + T_2) g_{1,i,k} g_{2,j,k} g_{3,k,i} + (2 - T_1 - T_2) g_{1,j,k} g_{2,j,k} g_{3,k,i}
```

Matches $d_5\, p_{1,j}\, p_{2,i}\, x_{3,i} + d_3\, p_{1,i}\, p_{2,j}\, x_{3,i} + (-d_3 - d_5)\, p_{1,j}\, p_{2,j}\, x_{3,i}$ as in DeterminingThePXXandXPPCoefficients.nb, with

---

```
In[•]:= CF[-g1,k,i g2,k,i g3,i,k - g1,k,j g2,k,j g3,j,k + g1,k,i+ g2,k,i+ g3,i+,k + g1,k,j+ g2,k,j+ g3,j+,k /. ggRules1,i,j]
```

```
Out[•]=
(-2 + T1 + T2) g1,k,i+ g2,k,i+ g3,j+,k / (T1 T2) - (-1 + T2) g1,k,j+ g2,k,i+ g3,j+,k / T2 - (-1 + T1) g1,k,i+ g2,k,j+ g3,j+,k / T1
```

```
In[•]:= CF[-g1,k,i g2,k,i g3,i,k - g1,k,j g2,k,j g3,j,k + g1,k,i+ g2,k,i+ g3,i+,k + g1,k,j+ g2,k,j+ g3,j+,k /. rggRules1,i,j]
```

```
Out[•]=
(-T1 - T2 + 2 T1 T2) g1,k,i g2,k,i g3,j,k + (1 - T2) g1,k,j g2,k,i g3,j,k + (1 - T1) g1,k,i g2,k,j g3,j,k
```

Matches $c_5\, p_{3,j}\, x_{1,i}\, x_{2,i} - \frac{(c_5+c_6\, T_2)\, p_{3,j}\, x_{1,j}\, x_{2,i}}{T_1} + c_6\, p_{3,j}\, x_{1,i}\, x_{2,j}$ as in DeterminingThePXXandXPPCoefficients.nb as follows:

```
In[•]:= Simplify[-(c5 + c6 T2) / T1 /. {c5 → -T1 - T2 + 2 T1 T2, c6 → 1 - T1}]
```

```
Out[•]=
1 - T2
```