Pensieve header: The PBW multiplication tensor for $gl_{n,\epsilon}$ using the λ-tangent formalism. Some material from pensieve://Projects/UEA.

In[•]:=
```
SetDirectory@"C:\\drorbn\\AcademicPensieve\\Projects\\SolvablePBW";
<< KnotTheory`
```

```
Loading KnotTheory` version of October 29, 2024, 10:29:52.1301.
Read more at http://katlas.org/wiki/KnotTheory.
```

Prolog

In[•]:=
```
BeginPackage["UEA`"];
Print["UEA` does computations in general universal enveloping
    algebras and PBW algebras. It is in the public domain, available
    at http://drorbn.net/AcademicPensieve/Projects/SolvablePBW/.
    Dror Bar-Natan is committed to support it within
    reason until June 1, 2027. This is version 260601."];
Print["UEA` implements / extends ",
  Sort@{"**", ϵ, $k, CF, SSQ, NilQ, B, m, SetAlgebra, U,
    UB, UProducts, USimp, UU, $Basis, $PBWRule, δ, adPower, adExp},
  "."];
Begin["`Private`"];
```

```
UEA` does computations in general universal enveloping algebras and PBW algebras. It is in the
  public domain, available at http://drorbn.net/AcademicPensieve/Projects/SolvablePBW/. Dror
  Bar-Natan is committed to support it within reason until June 1, 2027. This is version 260601.
UEA` implements / extends {**, adExp, adPower, B, CF, m, NilQ,
  SetAlgebra, SSQ, U, UB, UProducts, USimp, UU, δ, ϵ, $Basis, $k, $PBWRule}.
```

Utilities

In[•]:=
```
δ_,_ := If[i == j, 1, 0];
```

In[•]:=
```
SSQ[c_. * x_] /; MemberQ[$Basis, x] := ¬ NilQ[x]; (* Semi-Simple Q *)
NilQ[c_ * x_] /; MemberQ[$Basis, x] := NilQ[x];
SSQ[x_Plus] := And @@ (SSQ /@ (List @@ x));
NilQ[x_Plus] := And @@ (NilQ /@ (List @@ x));
```

In[•]:=
```
$k = 1;
```

In[•]:=
```
CF[ℰ_] := Expand[ℰ /. e^L_ :> e^Expand[L]] /. {ϵ^k_. /; k > $k → 0};
```

Implementing general universal enveloping algebras

```
In[•]:= B[0, _] = 0; B[_, 0] = 0;
B[c_ * x_, y_] /; MemberQ[$Basis, x] := CF[c B[x, y]];
B[y_, c_ * x_] /; MemberQ[$Basis, x] := CF[c B[y, x]];
B[x_Plus, y_] := B[#, y] & /@ x;
B[x_, y_Plus] := B[x, #] & /@ y;
B[x_, x_] = 0;
B[y_, x_] := CF[-B[x, y]];
```

```
In[•]:= x_ ≼ y_ := OrderedQ[{x, y} /. $PBWRule]; x_ ≺ y_ := ! OrderedQ[{y, x} /. $PBWRule];
UU_i_[1] := U_i[];
UU_i_[x_^p_.] := UU_i @@ Table[x, {p}];
UU_i_[ℰ_] := ℰ /. {
    U[xs__] ↦ U_i[xs],
    x_ /; MemberQ[$Basis, x] ↦ U_i[x]
   };
UU_i_[x_, xs__] := UU_t1[x] UU_t2[xs] // Expand // m_{t1,t2→i};
USimp[ℰ_] := Collect[ℰ, Times[U_[__] ..], Expand];
USimp[ℰ_] := Expand[ℰ];
```

```
In[•]:= m_s__[0] = 0;
m_s__[x_Plus] := m_s /@ x;
m_s__[sd_SeriesData] := MapAt[m_s, sd, {3, All}];
m_i_→j_[ℰ_] := ℰ /. U_i → U_j;
```

```
In[•]:= m_i_,j_→k_[c_. U_i_[x___] U_j_[]] := c U_k[x];
m_i_,j_→k_[c_. U_i_[] U_j_[y___]] := c U_k[y];
m_i_,j_→k_[c_. U_i_[xx___, x_] U_j_[y_, yy___]] := If[x ≼ y,
   c U_k[xx, x, y, yy],
   ((U_i[xx] (U_j[y, x] + UU_j[B[x, y]]) // Expand // m_{i,j→i}) U_j[yy] // Expand // m_{i,j→k})
     c // USimp
  ];
```

```
In[•]:= UProducts[{}, 0] = {1}; UProducts[{}, d_Integer] /; d > 0 = {};
UProducts[{i_, is___}, d_Integer] := Sort@
   Flatten@Table[(U_i @@@ Subsets[$Basis, {j}]) u, {j, 0, d}, {u, UProducts[{is}, d - j]}];
```

```
In[•]:= Supp[ℰ_] := Union@Cases[{ℰ}, U_i_[___] ↦ i, ∞];
```

```
In[•]:= Unprotect[NonCommutativeMultiply];
        NonCommutativeMultiply[x_] := x;
        x_ ⊠ y_ := Module[{is = Supp[x] ⋂ Supp[y], σ, z},
           z = x; Do[z = m_{i→σ@i}[z], {i, is}];
           z = Expand[y z]; Do[z = m_{σ@i,i→i}[z], {i, is}]; z];
        UB[x_, y_] := USimp[x ⊠ y - y ⊠ x];
```

Epilog

```
In[•]:= End[]; EndPackage[];
```

Predefined Algebras

sl(2)

```
In[•]:= Print["UEA`SetAlgebra knows \"sl2\"."];
```

```
UEA`SetAlgebra knows "sl2".
```

```
In[•]:= SetAlgebra["sl2"] := (
           Print["In sl2: ⟨e,h,f⟩/([h,e]=2e, [h,f]=-2f, [e,f]=h)."];
           B[h, e] = 2 e; B[h, f] = -2 f; B[e, f] = h;
           $Algebra = "sl2";
           $Basis = {e, h, f};
           $PBWRule = {e → 1, h → 2, f → 3};
           NilQ[e] = NilQ[f] = True; NilQ[h] = False;
          );
```

$gl_{n,\epsilon}$

```
In[•]:= Print["UEA`SetAlgebra knows the ϵ-nilpotent algebra gl_{n,ϵ}."];
```

```
UEA`SetAlgebra knows the ϵ-nilpotent algebra gl_{n,ϵ}.
```

In[•]:=
```
SetAlgebra[gl_{n_,ϵ}] := (
  $Algebra = gl_{n,ϵ};
  $Basis = Flatten@{
     Table[y_{α,β}, {β, 2, n}, {α, 1, β - 1}],
     Table[x_{α,β}, {β, 1, n}, {α, 1, β}]
    };
  NilQ[y__] = True; NilQ[x_{α_,β_}] := (α =!= β); (* Nilpotent Q *)
  $PBWRule = Thread[$Basis → Range@Length@$Basis];
  B[x_{i_,j_}, x_{k_,l_}] := δ_{j,k} x_{i,l} - δ_{l,i} x_{k,j};
  B[y_{i_,j_}, y_{k_,l_}] := CF[ϵ δ_{j,k} y_{i,l} - ϵ δ_{l,i} y_{k,j}];
  B[x_{i_,j_}, y_{l_,k_}] := CF[δ_{j,k} x_{i,l} - δ_{l,i} x_{k,j} /. x_{α_,β_} :↦ If[α ≤ β, ϵ x_{α,β}, y_{β,α}]];
 );
```

```
SetAlgebra[gl_{2,ϵ}];
$PBWRule
MatrixForm@Table[{b1, b2} → B[b1, b2], {b1, $Basis}, {b2, $Basis}]
```

Out[•]=
$$\{y_{1,2} \to 1,\ y_{1,3} \to 2,\ y_{2,3} \to 3,\ x_{1,1} \to 4,\ x_{1,2} \to 5,\ x_{2,2} \to 6,\ x_{1,3} \to 7,\ x_{2,3} \to 8,\ x_{3,3} \to 9\}$$

Out[•]//MatrixForm=
$$\begin{pmatrix}
\{y_{1,2}, y_{1,2}\} \to 0 & \{y_{1,2}, y_{1,3}\} \to 0 & \{y_{1,2}, y_{2,3}\} \to 0 & \{y_{1,2}, x_{1,1}\} \to y_{1,2} & \{y_{1,2}, x_{1,2}\} \to 0 \\
\{y_{1,3}, y_{1,2}\} \to 0 & \{y_{1,3}, y_{1,3}\} \to 0 & \{y_{1,3}, y_{2,3}\} \to 0 & \{y_{1,3}, x_{1,1}\} \to y_{1,3} & \{y_{1,3}, x_{1,2}\} \to y_{2,3} \\
\{y_{2,3}, y_{1,2}\} \to 0 & \{y_{2,3}, y_{1,3}\} \to 0 & \{y_{2,3}, y_{2,3}\} \to 0 & \{y_{2,3}, x_{1,1}\} \to 0 & \{y_{2,3}, x_{1,2}\} \to 0 \\
\{x_{1,1}, y_{1,2}\} \to -y_{1,2} & \{x_{1,1}, y_{1,3}\} \to -y_{1,3} & \{x_{1,1}, y_{2,3}\} \to 0 & \{x_{1,1}, x_{1,1}\} \to 0 & \{x_{1,1}, x_{1,2}\} \to x_{1,2} \\
\{x_{1,2}, y_{1,2}\} \to 0 & \{x_{1,2}, y_{1,3}\} \to -y_{2,3} & \{x_{1,2}, y_{2,3}\} \to 0 & \{x_{1,2}, x_{1,1}\} \to -x_{1,2} & \{x_{1,2}, x_{1,2}\} \to 0 \\
\{x_{2,2}, y_{1,2}\} \to y_{1,2} & \{x_{2,2}, y_{1,3}\} \to 0 & \{x_{2,2}, y_{2,3}\} \to -y_{2,3} & \{x_{2,2}, x_{1,1}\} \to 0 & \{x_{2,2}, x_{1,2}\} \to -x_{1,2} \\
\{x_{1,3}, y_{1,2}\} \to 0 & \{x_{1,3}, y_{1,3}\} \to 0 & \{x_{1,3}, y_{2,3}\} \to 0 & \{x_{1,3}, x_{1,1}\} \to -x_{1,3} & \{x_{1,3}, x_{1,2}\} \to 0 \\
\{x_{2,3}, y_{1,2}\} \to 0 & \{x_{2,3}, y_{1,3}\} \to y_{1,2} & \{x_{2,3}, y_{2,3}\} \to 0 & \{x_{2,3}, x_{1,1}\} \to 0 & \{x_{2,3}, x_{1,2}\} \to -x_{1,3} \\
\{x_{3,3}, y_{1,2}\} \to 0 & \{x_{3,3}, y_{1,3}\} \to y_{1,3} & \{x_{3,3}, y_{2,3}\} \to y_{2,3} & \{x_{3,3}, x_{1,1}\} \to 0 & \{x_{3,3}, x_{1,2}\} \to 0
\end{pmatrix}$$

In[•]:=
```
adPower[x_, k_, Env_][c_ * y_] /; MemberQ[$Basis, y] := CF[c adPower[x, k, Env][y]];
adPower[x_, k_, Env_][y_Plus] := adPower[x, k, Env] /@ y;
adPower[_, 0, Env_][y_] := y;
adPower[x_, k_, Env_][0] = 0;
adPower[x_, k_, Env_][y_] /; MemberQ[$Basis, y] :=
  adPower[x, k, Env][y] = B[adPower[x, k - 1, Env][y], x];
adPower[x_, k_][y_] := adPower[x, k, {$Algebra, $k}][y];
```

In[•]:=
```
x0 = ($Basis /. {x → ξ0, y → η0}).$Basis
x1 = ($Basis /. {x → ξ1, y → η1}).$Basis
```

Out[•]=
$$y_{1,2}\,\eta 0_{1,2} + x_{1,1}\,\xi 0_{1,1} + x_{1,2}\,\xi 0_{1,2} + x_{2,2}\,\xi 0_{2,2}$$

Out[•]=
$$y_{1,2}\,\eta 1_{1,2} + x_{1,1}\,\xi 1_{1,1} + x_{1,2}\,\xi 1_{1,2} + x_{2,2}\,\xi 1_{2,2}$$

```
In[•]:= adExp[x_][y_] /; SSQ[x] := Expand@Module[{A, b, c},
           A = Table[Coefficient[B[b, x], c], {c, $Basis}, {b, $Basis}];
           CF[$Basis.Normal[Series[MatrixExp[A], {ϵ, 0, $k}]].
             Table[Coefficient[y, b], {b, $Basis}]]
         ]
```

```
In[•]:= SSQ[ξ0_{1,1} x_{1,1}]
Out[•]=
True
```

```
In[•]:= adExp[ξ0_{1,1} x_{1,1}][x1]
Out[•]=
e^{ξ0_{1,1}} y_{1,2} η1_{1,2} + x_{1,1} ξ1_{1,1} + e^{-ξ0_{1,1}} x_{1,2} ξ1_{1,2} + x_{2,2} ξ1_{2,2}
```

```
In[•]:= adExp[x_][y_] /; NilQ[x] := Expand@Module[{k = 0, s = 0},
           While[adPower[x, k][y] =!= 0,
            s += adPower[x, k][y] / k!;
            ++k
           ];
           s
         ]
```

```
In[•]:= adExp[ξ0_{1,2} x_{1,2}][x1]
Out[•]=
y_{1,2} η1_{1,2} - ϵ x_{1,1} η1_{1,2} ξ0_{1,2} + ϵ x_{2,2} η1_{1,2} ξ0_{1,2} - ϵ x_{1,2} η1_{1,2} ξ0_{1,2}^2 +
 x_{1,1} ξ1_{1,1} + x_{1,2} ξ0_{1,2} ξ1_{1,1} + x_{1,2} ξ1_{1,2} + x_{2,2} ξ1_{2,2} - x_{1,2} ξ0_{1,2} ξ1_{2,2}
```

```
In[•]:= λTangent[] = 0;
        λTangent[xs___, x_] := adExp[x][λTangent[xs]] + ∂_λ x;
        λTangent[xs_List] := λTangent @@ xs
```

```
In[•]:= $Basis ($Basis /. {x → ξ, y → η})
Out[•]=
{y_{1,2} η_{1,2}, x_{1,1} ξ_{1,1}, x_{1,2} ξ_{1,2}, x_{2,2} ξ_{2,2}}
```

```
In[•]:= λTangent@(λ $Basis ($Basis /. {x → ξ, y → η}))
Out[•]=
e^{λ ξ_{1,1} - λ ξ_{2,2}} y_{1,2} η_{1,2} + x_{1,1} ξ_{1,1} + e^{λ ξ_{2,2}} x_{1,2} ξ_{1,2} - e^{λ ξ_{1,1}} ϵ λ x_{1,1} η_{1,2} ξ_{1,2} +
 e^{λ ξ_{1,1}} ϵ λ x_{2,2} η_{1,2} ξ_{1,2} + e^{λ ξ_{2,2}} λ x_{1,2} ξ_{1,1} ξ_{1,2} - e^{λ ξ_{1,1} + λ ξ_{2,2}} ϵ λ^2 x_{1,2} η_{1,2} ξ_{1,2}^2 + x_{2,2} ξ_{2,2}
```

```
In[•]:= $Basis
Out[•]=
{y_{1,2}, x_{1,1}, x_{1,2}, x_{2,2}}
```

```
In[•]:= lhs = λTangent[
          Join[λ$Basis ($Basis /. {x → ξ1, y → η1}), λ$Basis ($Basis /. {x → ξ2, y → η2})]
         ]
```

Out[•]=

$$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}}\, y_{1,2}\, \eta 1_{1,2} + e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}}\, y_{1,2}\, \eta 2_{1,2} + x_{1,1}\, \xi 1_{1,1} -$$
$$e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}}\, \lambda\, y_{1,2}\, \eta 2_{1,2}\, \xi 1_{1,1} + e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}}\, x_{1,2}\, \xi 1_{1,2} - e^{\lambda \xi 1_{1,1}} \in \lambda\, x_{1,1}\, \eta 1_{1,2}\, \xi 1_{1,2} +$$
$$e^{\lambda \xi 1_{1,1}} \in \lambda\, x_{2,2}\, \eta 1_{1,2}\, \xi 1_{1,2} + e^{\lambda \xi 1_{2,2}} \in \lambda\, x_{1,1}\, \eta 2_{1,2}\, \xi 1_{1,2} - e^{\lambda \xi 1_{2,2}} \in \lambda\, x_{2,2}\, \eta 2_{1,2}\, \xi 1_{1,2} +$$
$$2\, e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2\, y_{1,2}\, \eta 1_{1,2}\, \eta 2_{1,2}\, \xi 1_{1,2} - e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2\, y_{1,2}\, \eta 2_{1,2}^2\, \xi 1_{1,2} +$$
$$e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}}\, \lambda\, x_{1,2}\, \xi 1_{1,1}\, \xi 1_{1,2} + e^{\lambda \xi 1_{2,2}} \in \lambda^2\, x_{1,1}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 1_{1,2} - e^{\lambda \xi 1_{2,2}} \in \lambda^2\, x_{2,2}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 1_{1,2} -$$
$$e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3\, y_{1,2}\, \eta 2_{1,2}^2\, \xi 1_{1,1}\, \xi 1_{1,2} - e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^2\, x_{1,2}\, \eta 1_{1,2}\, \xi 1_{1,2}^2 + x_{2,2}\, \xi 1_{2,2} +$$
$$e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}}\, \lambda\, y_{1,2}\, \eta 2_{1,2}\, \xi 1_{2,2} + x_{1,1}\, \xi 2_{1,1} + e^{\lambda \xi 2_{2,2}}\, x_{1,2}\, \xi 2_{1,2} - e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}} \in \lambda\, x_{1,1}\, \eta 1_{1,2}\, \xi 2_{1,2} +$$
$$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}} \in \lambda\, x_{2,2}\, \eta 1_{1,2}\, \xi 2_{1,2} - e^{\lambda \xi 2_{1,1}} \in \lambda\, x_{1,1}\, \eta 2_{1,2}\, \xi 2_{1,2} + e^{\lambda \xi 2_{1,1}} \in \lambda\, x_{2,2}\, \eta 2_{1,2}\, \xi 2_{1,2} +$$
$$e^{\lambda \xi 2_{2,2}}\, \lambda\, x_{1,2}\, \xi 1_{1,1}\, \xi 2_{1,2} + e^{\lambda \xi 2_{1,1}} \in \lambda^2\, x_{1,1}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 2_{1,2} - e^{\lambda \xi 2_{1,1}} \in \lambda^2\, x_{2,2}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 2_{1,2} -$$
$$2\, e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^2\, x_{1,2}\, \eta 1_{1,2}\, \xi 1_{1,2}\, \xi 2_{1,2} + 2\, e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{2,2}} \in \lambda^2\, x_{1,2}\, \eta 2_{1,2}\, \xi 1_{1,2}\, \xi 2_{1,2} +$$
$$2\, e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{2,2}} \in \lambda^3\, x_{1,2}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 1_{1,2}\, \xi 2_{1,2} - e^{\lambda \xi 2_{2,2}}\, \lambda\, x_{1,2}\, \xi 1_{2,2}\, \xi 2_{1,2} -$$
$$e^{\lambda \xi 2_{1,1}} \in \lambda^2\, x_{1,1}\, \eta 2_{1,2}\, \xi 1_{2,2}\, \xi 2_{1,2} + e^{\lambda \xi 2_{1,1}} \in \lambda^2\, x_{2,2}\, \eta 2_{1,2}\, \xi 1_{2,2}\, \xi 2_{1,2} + e^{\lambda \xi 2_{2,2}}\, \lambda\, x_{1,2}\, \xi 2_{1,1}\, \xi 2_{1,2} -$$
$$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^2\, x_{1,2}\, \eta 1_{1,2}\, \xi 2_{1,2}^2 - e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^2\, x_{1,2}\, \eta 2_{1,2}\, \xi 2_{1,2}^2 +$$
$$e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^3\, x_{1,2}\, \eta 2_{1,2}\, \xi 1_{1,1}\, \xi 2_{1,2}^2 - e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \in \lambda^3\, x_{1,2}\, \eta 2_{1,2}\, \xi 1_{2,2}\, \xi 2_{1,2}^2 + x_{2,2}\, \xi 2_{2,2}$$

```
In[•]:= rhs = λTangent@($Basis ($Basis /. {x_α_,α_ :> CF[f_α,α[λ]], x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]}))
```

Out[•]=

$$x_{1,1}\, f_{1,1}'[\lambda] + e^{f_{2,2}[\lambda]}\, x_{1,2}\, f_{1,2}[\lambda]\, f_{1,1}'[\lambda] + e^{f_{2,2}[\lambda]}\, x_{1,2}\, f_{1,2}'[\lambda] +$$
$$x_{2,2}\, f_{2,2}'[\lambda] + e^{f_{1,1}[\lambda]-f_{2,2}[\lambda]}\, y_{1,2}\, g_{1,2}'[\lambda] - e^{f_{1,1}[\lambda]} \in x_{1,1}\, f_{1,2}[\lambda]\, g_{1,2}'[\lambda] +$$
$$e^{f_{1,1}[\lambda]} \in x_{2,2}\, f_{1,2}[\lambda]\, g_{1,2}'[\lambda] - e^{f_{1,1}[\lambda]+f_{2,2}[\lambda]} \in x_{1,2}\, f_{1,2}[\lambda]^2\, g_{1,2}'[\lambda]$$

```
In[•]:= SSBasis = Select[$Basis, SSQ]
```

Out[•]=

$$\{x_{1,1},\ x_{2,2}\}$$

```
In[•]:= eqns = Simplify[(Coefficient[lhs - rhs, #] == 0) & /@ $Basis]
```

Out[•]=

$$\Big\{e^{\lambda (\xi 1_{1,1}-\xi 1_{2,2}+\xi 2_{1,1}-\xi 2_{2,2})}\, \eta 1_{1,2}\, \left(1 + 2\, e^{\lambda \xi 1_{2,2}} \in \lambda^2\, \eta 2_{1,2}\, \xi 1_{1,2}\right) ==$$
$$e^{\lambda (\xi 1_{2,2}+\xi 2_{1,1}-\xi 2_{2,2})} \in \lambda^2\, \eta 2_{1,2}^2\, (1 + \lambda\, \xi 1_{1,1})\, \xi 1_{1,2} +$$
$$e^{\lambda (\xi 2_{1,1}-\xi 2_{2,2})}\, \eta 2_{1,2}\, (-1 + \lambda\, \xi 1_{1,1} - \lambda\, \xi 1_{2,2}) + e^{f_{1,1}[\lambda]-f_{2,2}[\lambda]}\, g_{1,2}'[\lambda],$$
$$\xi 2_{1,1} + \xi 1_{1,1}\, \left(1 + \epsilon\, \lambda^2\, \eta 2_{1,2}\, \left(e^{\lambda \xi 1_{2,2}}\, \xi 1_{1,2} + e^{\lambda \xi 2_{1,1}}\, \xi 2_{1,2}\right)\right) + e^{f_{1,1}[\lambda]} \in f_{1,2}[\lambda]\, g_{1,2}'[\lambda] ==$$
$$e^{\lambda (\xi 1_{1,1}-\xi 1_{2,2})} \in \lambda\, \eta 1_{1,2}\, \left(e^{\lambda \xi 1_{2,2}}\, \xi 1_{1,2} + e^{\lambda \xi 2_{1,1}}\, \xi 2_{1,2}\right) +$$
$$\epsilon \in \lambda\, \eta 2_{1,2}\, \left(-e^{\lambda \xi 1_{2,2}}\, \xi 1_{1,2} + e^{\lambda \xi 2_{1,1}}\, (1 + \lambda\, \xi 1_{2,2})\, \xi 2_{1,2}\right) + f_{1,1}'[\lambda],$$
$$e^{-\lambda (\xi 1_{2,2}+\xi 2_{1,1})}\, \left(-e^{\lambda (\xi 1_{1,1}+2\, \xi 1_{2,2}+\xi 2_{2,2})} \in \lambda^2\, \eta 1_{1,2}\, \xi 1_{1,2}^2 + e^{\lambda (\xi 1_{2,2}+\xi 2_{2,2})}\, \xi 1_{1,2}\, \left(-2\, e^{\lambda (\xi 1_{1,1}+\xi 2_{1,1})} \in \lambda^2\, \eta 1_{1,2}\right.\right.$$
$$\left.\xi 2_{1,2} + e^{\lambda \xi 1_{2,2}}\, \left(1 + 2\, e^{\lambda \xi 2_{1,1}} \in \lambda^2\, \eta 2_{1,2}\, \xi 2_{1,2}\right) + e^{\lambda \xi 1_{2,2}}\, \lambda\, \xi 1_{1,1}\, \left(1 + 2\, e^{\lambda \xi 2_{1,1}} \in \lambda^2\, \eta 2_{1,2}\, \xi 2_{1,2}\right)\right) -$$
$$e^{\lambda \xi 2_{1,1}}\, \left(e^{\lambda (\xi 1_{2,2}+\xi 2_{2,2})}\, (-1 - \lambda\, \xi 1_{1,1} + \lambda\, \xi 1_{2,2} - \lambda\, \xi 2_{1,1})\, \xi 2_{1,2} +\right.$$
$$e^{\lambda (\xi 2_{1,1}+\xi 2_{2,2})} \in \lambda^2\, \left(e^{\lambda \xi 1_{1,1}}\, \eta 1_{1,2} + e^{\lambda \xi 1_{2,2}}\, \eta 2_{1,2}\, (1 - \lambda\, \xi 1_{1,1} + \lambda\, \xi 1_{1,2})\right)\, \xi 2_{1,2}^2 +$$
$$\left.\left.e^{\lambda \xi 1_{2,2}+f_{2,2}[\lambda]}\, \left(f_{1,2}[\lambda]\, f_{1,1}'[\lambda] + f_{1,2}'[\lambda] - e^{f_{1,1}[\lambda]} \in f_{1,2}[\lambda]^2\, g_{1,2}'[\lambda]\right)\right)\right) == 0,$$
$$\xi 1_{2,2} + \epsilon\, \lambda\, \eta 1_{1,2}\, \left(e^{\lambda \xi 1_{1,1}}\, \xi 1_{1,2} + e^{\lambda (\xi 1_{1,1}-\xi 1_{2,2}+\xi 2_{1,1})}\, \xi 2_{1,2}\right) + \xi 2_{2,2} ==$$
$$\epsilon\, \lambda\, \eta 2_{1,2}\, \left(e^{\lambda \xi 1_{2,2}}\, (1 + \lambda\, \xi 1_{1,1})\, \xi 1_{1,2} + e^{\lambda \xi 2_{1,1}}\, (-1 + \lambda\, \xi 1_{1,1} - \lambda\, \xi 1_{2,2})\, \xi 2_{1,2}\right) +$$
$$f_{2,2}'[\lambda] + e^{f_{1,1}[\lambda]} \in f_{1,2}[\lambda]\, g_{1,2}'[\lambda]\Big\}$$

In[•]:=
```
Length@eqns
```
Out[•]=
```
4
```

In[•]:=
```
unknowns = $Basis /. {x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]}
```
Out[•]=
```
{g_{1,2}[λ], f_{1,1}[λ], f_{1,2}[λ], f_{2,2}[λ]}
```

In[•]:=
```
$Basis /. {x_αβ__ :> f_αβ[0] == 0, y_αβ__ :> g_αβ[0] == 0}
```
Out[•]=
```
{g_{1,2}[0] == 0, f_{1,1}[0] == 0, f_{1,2}[0] == 0, f_{2,2}[0] == 0}
```

In[•]:=
```
{sol0} = Block[{$k = 0}, Simplify@DSolve[
    lhs = λTangent[
      Join[λ $Basis ($Basis /. {x → ξ1, y → η1}), λ $Basis ($Basis /. {x → ξ2, y → η2})]
     ];
    rhs = λTangent@($Basis ($Basis /. {x_α_,α_ :> CF[f_α,α[λ]], x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]}));
    Join[
     (Coefficient[CF[lhs - rhs], #] == 0) & /@ $Basis,
     $Basis /. {x_αβ__ :> f_αβ[0] == 0, y_αβ__ :> g_αβ[0] == 0}
    ],
    $Basis /. {x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]},
    λ
   ]]
```
Out[•]=
$$\left\{\left\{f_{1,1}[\lambda]\to \lambda \left(\xi 1_{1,1}+\xi 2_{1,1}\right),\ f_{2,2}[\lambda]\to \lambda \left(\xi 1_{2,2}+\xi 2_{2,2}\right),\right.\right.$$
$$\left.\left.f_{1,2}[\lambda]\to e^{-\lambda \xi 2_{1,1}}\ \lambda\ \xi 1_{1,2}+e^{-\lambda \xi 1_{2,2}}\ \lambda\ \xi 2_{1,2},\ g_{1,2}[\lambda]\to \lambda \left(\eta 1_{1,2}+e^{\lambda \left(-\xi 1_{1,1}+\xi 1_{2,2}\right)}\ \eta 2_{1,2}\right)\right\}\right\}$$

In[•]:=
```
{sol1} = Block[{$k = 1}, Simplify@DSolve[
    lhs = λTangent[
      Join[λ $Basis ($Basis /. {x → ξ1, y → η1}), λ $Basis ($Basis /. {x → ξ2, y → η2})]
     ];
    rhs = λTangent[
      $Basis ($Basis /. {x_α_,α_ :> CF[f_α,α[λ]], x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]}) /.
       (sol0 /. ((a_ → b_) :> (a → ϵ a + b)))
     ];
    Join[
     (Coefficient[CF[lhs - rhs], #] == 0) & /@ $Basis,
     $Basis /. {x_αβ__ :> f_αβ[0] == 0, y_αβ__ :> g_αβ[0] == 0}
    ],
    $Basis /. {x_αβ__ → f_αβ[λ], y_αβ__ → g_αβ[λ]},
    λ
   ]]
```
Out[•]=
$$\left\{\left\{f_{1,1}[\lambda]\to e^{\lambda \xi 1_{2,2}}\ \lambda^2\ \eta 2_{1,2}\ \xi 1_{1,2},\ f_{2,2}[\lambda]\to -e^{\lambda \xi 1_{2,2}}\ \lambda^2\ \eta 2_{1,2}\ \xi 1_{1,2},\right.\right.$$
$$\left.\left.f_{1,2}[\lambda]\to \lambda^3\ \eta 2_{1,2}\ \xi 1_{1,2}\ \xi 2_{1,2},\ g_{1,2}[\lambda]\to -e^{-\lambda \xi 1_{1,1}+2\ \lambda \xi 1_{2,2}}\ \lambda^3\ \eta 2_{1,2}^2\ \xi 1_{1,2}\right\}\right\}$$

```
In[•]:= SetAlgebra[gl_{3,ϵ}];
        $k = 1
        $PBWRule
        MatrixForm@Table[{b1, b2} → B[b1, b2], {b1, $Basis}, {b2, $Basis}]
```

```
Out[•]=
        1
```

```
Out[•]=
        {y_{1,2} → 1, y_{1,3} → 2, y_{2,3} → 3, x_{1,1} → 4, x_{1,2} → 5, x_{2,2} → 6, x_{1,3} → 7, x_{2,3} → 8, x_{3,3} → 9}
```

```
Out[•]//MatrixForm=
        ⎛      {y_{1,2}, y_{1,2}} → 0                {y_{1,2}, y_{1,3}} → 0                {y_{1,2}, y_{2,3}} → ∈ y_{1,3}      {y_{1,2}, x_{1,1}} → y
        ⎜      {y_{1,3}, y_{1,2}} → 0                {y_{1,3}, y_{1,3}} → 0                  {y_{1,3}, y_{2,3}} → 0            {y_{1,3}, x_{1,1}} → y
        ⎜    {y_{2,3}, y_{1,2}} → -∈ y_{1,3}         {y_{2,3}, y_{1,3}} → 0                  {y_{2,3}, y_{2,3}} → 0            {y_{2,3}, x_{1,1}} →
        ⎜     {x_{1,1}, y_{1,2}} → -y_{1,2}        {x_{1,1}, y_{1,3}} → -y_{1,3}           {x_{1,1}, y_{2,3}} → 0            {x_{1,1}, x_{1,1}} →
        ⎜{x_{1,2}, y_{1,2}} → ∈ x_{1,1} - ∈ x_{2,2}  {x_{1,2}, y_{1,3}} → -y_{2,3}          {x_{1,2}, y_{2,3}} → 0          {x_{1,2}, x_{1,1}} → -x
        ⎜     {x_{2,2}, y_{1,2}} → y_{1,2}          {x_{2,2}, y_{1,3}} → 0                {x_{2,2}, y_{2,3}} → -y_{2,3}       {x_{2,2}, x_{1,1}} →
        ⎜    {x_{1,3}, y_{1,2}} → -∈ x_{2,3}     {x_{1,3}, y_{1,3}} → ∈ x_{1,1} - ∈ x_{3,3}     {x_{1,3}, y_{2,3}} → ∈ x_{1,2}    {x_{1,3}, x_{1,1}} → -x
        ⎜      {x_{2,3}, y_{1,2}} → 0              {x_{2,3}, y_{1,3}} → y_{1,2}        {x_{2,3}, y_{2,3}} → ∈ x_{2,2} - ∈ x_{3,3}   {x_{2,3}, x_{1,1}} →
        ⎝      {x_{3,3}, y_{1,2}} → 0              {x_{3,3}, y_{1,3}} → y_{1,3}            {x_{3,3}, y_{2,3}} → y_{2,3}          {x_{3,3}, x_{1,1}} →
```

```
In[•]:= sol[-1] = 0 $Basis;
        Do[
          Block[{$k = k},
           s0 = Thread[$Basis → sol[k - 1]];
           lhs = λTangent[
             Join[λ $Basis ($Basis /. {x → ξ1, y → η1}), λ $Basis ($Basis /. {x → ξ2, y → η2})]
            ];
           rhs = λTangent[
             $Basis ($Basis /. {x_{αβ__} :→ (x_{αβ} /. s0) + ϵ^k f_{αβ}[λ], y_{αβ__} :→ (y_{αβ} /. s0) + ϵ^k g_{αβ}[λ]})
            ];
           Echo@"computed lhs and rhs";
           eqns = EchoLabel["eqns"]@Join[
               (Coefficient[CF[lhs - rhs], #] == 0) & /@ $Basis,
               $Basis /. {x_{αβ__} :→ f_{αβ}[0] == 0, y_{αβ__} :→ g_{αβ}[0] == 0}
              ];
           unknowns = $Basis /. {x_{αβ__} → f_{αβ}[λ], y_{αβ__} → g_{αβ}[λ]};
           {s} = DSolve[eqns, unknowns, λ];
           sol[k] = CF[sol[k - 1] + ϵ^k ($Basis /. {x_{αβ__} → f_{αβ}[λ], y_{αβ__} → g_{αβ}[λ]} /. s)]
          ],
          {k, 0, $k}
         ];
        sol[$k].$Basis
```

```
» computed lhs and rhs
```

» eqns $\Big\{$
$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \eta 1_{1,2} + e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \eta 2_{1,2} - e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \lambda \eta 2_{1,2} \xi 1_{1,1} +$
$e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \lambda \eta 2_{1,2} \xi 1_{2,2} - e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \lambda \eta 1_{1,3} \xi 1_{2,3} + e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \lambda \eta 2_{1,3} \xi 1_{2,3} +$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \lambda^2 \eta 2_{1,3} \xi 1_{2,2} \xi 1_{2,3} - e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \lambda \eta 1_{1,3} \xi 2_{2,3} - e^{\lambda \xi 2_{1,1}} \lambda \eta 2_{1,3} \xi 2_{2,3} +$
$e^{\lambda \xi 2_{1,1}} \lambda^2 \eta 2_{1,3} \xi 1_{1,1} \xi 2_{2,3} - e^{\lambda \xi 2_{1,1}} \lambda^2 \eta 2_{1,3} \xi 1_{3,3} \xi 2_{2,3} - e^{f_{1,1}[\lambda]-f_{2,2}[\lambda]} g_{1,2}'[\lambda] + e^{f_{1,1}[\lambda]} f_{2,3}[\lambda] g_{1,3}'[\lambda] == 0,$
$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{3,3}} \eta 1_{1,3} + e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{3,3}} \eta 2_{1,3} - e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{3,3}} \lambda \eta 2_{1,3} \xi 1_{1,1} +$
$e^{\lambda \xi 2_{1,1}-\lambda \xi 2_{3,3}} \lambda \eta 2_{1,3} \xi 1_{3,3} - e^{f_{1,1}[\lambda]-f_{3,3}[\lambda]} g_{1,3}'[\lambda] == 0,$
$e^{\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \eta 1_{2,3} + e^{\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \eta 2_{2,3} + e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 1_{1,3} \xi 1_{1,2} -$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 2_{1,3} \xi 1_{1,2} - e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda^2 \eta 2_{1,3} \xi 1_{1,1} \xi 1_{1,2} - e^{\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 2_{2,3} \xi 1_{2,2} +$
$e^{\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 2_{2,3} \xi 1_{3,3} + e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 1_{1,3} \xi 2_{1,2} + e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda \eta 2_{1,3} \xi 2_{1,2} -$
$e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda^2 \eta 2_{1,3} \xi 1_{1,1} \xi 2_{1,2} + e^{\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}-\lambda \xi 2_{3,3}} \lambda^2 \eta 2_{1,3} \xi 1_{3,3} \xi 2_{1,2} -$
$e^{f_{1,1}[\lambda]+f_{2,2}[\lambda]-f_{3,3}[\lambda]} f_{1,2}[\lambda] g_{1,3}'[\lambda] - e^{f_{2,2}[\lambda]-f_{3,3}[\lambda]} g_{2,3}'[\lambda] == 0, \xi 1_{1,1} + \xi 2_{1,1} - f_{1,1}'[\lambda] == 0,$
$e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \xi 1_{1,2} + e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}} \lambda \xi 1_{1,1} \xi 1_{1,2} + e^{\lambda \xi 2_{2,2}} \xi 2_{1,2} + e^{\lambda \xi 2_{2,2}} \lambda \xi 1_{1,1} \xi 2_{1,2} -$
$e^{\lambda \xi 2_{2,2}} \lambda \xi 1_{2,2} \xi 2_{1,2} + e^{\lambda \xi 2_{2,2}} \lambda \xi 2_{1,1} \xi 2_{1,2} - e^{f_{2,2}[\lambda]} f_{1,2}[\lambda] f_{1,1}'[\lambda] - e^{f_{2,2}[\lambda]} f_{1,2}'[\lambda] == 0,$
$\xi 1_{2,2} + \xi 2_{2,2} - f_{2,2}'[\lambda] == 0, e^{\lambda \xi 1_{3,3}-\lambda \xi 2_{1,1}+\lambda \xi 2_{3,3}} \xi 1_{1,3} + e^{\lambda \xi 1_{3,3}-\lambda \xi 2_{1,1}+\lambda \xi 2_{3,3}} \lambda \xi 1_{1,1} \xi 1_{1,3} +$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}-\lambda \xi 2_{1,1}+\lambda \xi 2_{3,3}} \lambda \xi 1_{1,2} \xi 1_{2,3} + e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}-\lambda \xi 2_{1,1}+\lambda \xi 2_{3,3}} \lambda^2 \xi 1_{1,1} \xi 1_{1,2} \xi 1_{2,3} -$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{3,3}} \lambda \xi 1_{2,3} \xi 2_{1,2} - e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{3,3}} \lambda^2 \xi 1_{2,2} \xi 1_{2,3} \xi 2_{1,2} + e^{\lambda \xi 2_{3,3}} \xi 2_{1,3} + e^{\lambda \xi 2_{3,3}} \lambda \xi 1_{1,1} \xi 2_{1,3} -$
$e^{\lambda \xi 2_{3,3}} \lambda \xi 1_{3,3} \xi 2_{1,3} + e^{\lambda \xi 2_{3,3}} \lambda \xi 2_{1,1} \xi 2_{1,3} + e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda \xi 1_{1,2} \xi 2_{2,3} +$
$e^{\lambda \xi 1_{2,2}-\lambda \xi 2_{1,1}+\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda^2 \xi 1_{1,1} \xi 1_{1,2} \xi 2_{2,3} + e^{\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda \xi 2_{1,2} \xi 2_{2,3} + e^{\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda^2 \xi 1_{1,1} \xi 2_{1,2} \xi 2_{2,3} -$
$e^{\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda^2 \xi 1_{2,2} \xi 2_{1,2} \xi 2_{2,3} + e^{\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda^2 \xi 2_{1,1} \xi 2_{1,2} \xi 2_{2,3} - e^{f_{3,3}[\lambda]} f_{1,3}[\lambda] f_{1,1}'[\lambda] -$
$e^{f_{2,2}[\lambda]+f_{3,3}[\lambda]} f_{1,2}[\lambda] f_{2,3}[\lambda] f_{1,1}'[\lambda] - e^{f_{2,2}[\lambda]+f_{3,3}[\lambda]} f_{2,3}[\lambda] f_{1,2}'[\lambda] - e^{f_{3,3}[\lambda]} f_{1,3}'[\lambda] == 0,$
$e^{\lambda \xi 1_{3,3}-\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \xi 1_{2,3} + e^{\lambda \xi 1_{3,3}-\lambda \xi 2_{2,2}+\lambda \xi 2_{3,3}} \lambda \xi 1_{2,2} \xi 1_{2,3} + e^{\lambda \xi 2_{3,3}} \xi 2_{2,3} + e^{\lambda \xi 2_{3,3}} \lambda \xi 1_{2,2} \xi 2_{2,3} -$
$e^{\lambda \xi 2_{3,3}} \lambda \xi 1_{3,3} \xi 2_{2,3} + e^{\lambda \xi 2_{3,3}} \lambda \xi 2_{2,2} \xi 2_{2,3} - e^{f_{3,3}[\lambda]} f_{2,3}[\lambda] f_{2,2}'[\lambda] - e^{f_{3,3}[\lambda]} f_{2,3}'[\lambda] == 0,$
$\xi 1_{3,3} + \xi 2_{3,3} - f_{3,3}'[\lambda] == 0, g_{1,2}[0] == 0, g_{1,3}[0] == 0, g_{2,3}[0] == 0, f_{1,1}[0] == 0,$
$f_{1,2}[0] == 0, f_{2,2}[0] == 0, f_{1,3}[0] == 0, f_{2,3}[0] == 0, f_{3,3}[0] == 0\Big\}$

» computed lhs and rhs

» eqns $\Big\{$
$2 e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 1_{1,2} \eta 2_{1,2} \xi 1_{1,2} - e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 2_{1,2}^2 \xi 1_{1,2} -$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,2}^2 \xi 1_{1,1} \xi 1_{1,2} + e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 1_{1,3} \eta 2_{1,2} \xi 1_{1,3} +$
$e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 1_{1,2} \eta 2_{1,3} \xi 1_{1,3} - e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,3} -$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,1} \xi 1_{1,3} + e^{\lambda \xi 1_{1,1}-\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 1_{1,2} \eta 2_{2,3} \xi 1_{2,3} +$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^2 \eta 2_{1,2} \eta 2_{2,3} \xi 1_{2,3} - e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,2} \xi 1_{1,1} \xi 1_{2,3} -$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,2} \eta 2_{2,3} \xi 1_{1,1} \xi 1_{2,3} - e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 1_{1,3} \eta 2_{1,2} \xi 1_{1,2} \xi 1_{2,3} -$
$2 e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,2} \xi 1_{2,3} - e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 1_{1,3} \eta 2_{1,3} \xi 1_{1,3} \xi 1_{2,3} +$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,2} \xi 1_{2,2} \xi 1_{2,3} + e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,2} \eta 2_{2,3} \xi 1_{2,2} \xi 1_{2,3} -$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,2} \xi 1_{2,2} \xi 1_{2,3} + e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,3} \xi 1_{2,3}^2 +$
$2 e^{2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^3 \eta 2_{1,3} \eta 2_{2,3} \xi 1_{2,3}^2 - e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 1_{2,3} \eta 2_{1,3} \xi 1_{1,1} \xi 1_{2,3}^2 -$
$e^{2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 2_{1,3} \eta 2_{2,3} \xi 1_{1,1} \xi 1_{2,3}^2 - e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 1_{1,3} \eta 2_{1,3} \xi 1_{1,2} \xi 1_{2,3}^2 -$
$2 e^{\lambda \xi 1_{2,2}+2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 2_{1,3}^2 \xi 1_{1,2} \xi 1_{2,3}^2 + e^{\lambda \xi 1_{2,2}+2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^5 \eta 2_{1,3}^2 \xi 1_{1,1} \xi 1_{1,2} \xi 1_{2,3}^2 +$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 1_{2,3} \eta 2_{1,3} \xi 1_{2,2} \xi 1_{2,3}^2 + e^{2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 2_{1,3} \eta 2_{2,3} \xi 1_{2,2} \xi 1_{2,3}^2 -$
$e^{\lambda \xi 1_{2,2}+2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^5 \eta 2_{1,3}^2 \xi 1_{1,2} \xi 1_{2,2} \xi 1_{2,3}^2 + e^{\lambda \xi 1_{2,2}+\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 1_{2,3} \eta 2_{1,3} \xi 1_{2,3}^2 \xi 1_{3,3} +$
$e^{2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^4 \eta 2_{1,3} \eta 2_{2,3} \xi 1_{2,3}^2 \xi 1_{3,3} - e^{\lambda \xi 1_{2,2}+2 \lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}-\lambda \xi 2_{2,2}} \in \lambda^5 \eta 2_{1,3}^2 \xi 1_{1,2} \xi 1_{2,3}^2 \xi 1_{3,3} +$
$2 e^{\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^2 \eta 1_{2,3} \eta 2_{1,2} \xi 2_{2,3} - e^{\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,2} \xi 1_{1,1} \xi 2_{2,3} +$
$e^{\lambda \xi 1_{1,1}+\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{1,3} \eta 2_{1,2} \xi 1_{1,2} \xi 2_{2,3} - 2 e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{1,2} \eta 2_{1,3} \xi 1_{1,2} \xi 2_{2,3} +$
$2 e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}} \in \lambda^4 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,1} \xi 1_{1,2} \xi 2_{2,3} - 2 e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{1,3} \eta 2_{1,3} \xi 1_{1,3} \xi 2_{2,3} +$
$e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 2_{1,3}^2 \xi 1_{1,3} \xi 2_{2,3} + e^{\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^4 \eta 2_{1,3}^2 \xi 1_{1,1} \xi 1_{1,3} \xi 2_{2,3} +$
$e^{\lambda \xi 1_{2,2}-\lambda \xi 1_{3,3}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,2} \xi 1_{2,2} \xi 2_{2,3} - e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}} \in \lambda^4 \eta 2_{1,2} \eta 2_{1,3} \xi 1_{1,2} \xi 1_{2,2} \xi 2_{2,3} +$
$e^{\lambda \xi 1_{2,2}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{2,3} \eta 2_{1,3} \xi 1_{2,3} \xi 2_{2,3} + e^{\lambda \xi 1_{1,1}+\lambda \xi 2_{1,1}} \in \lambda^3 \eta 1_{1,3} \eta 2_{2,3} \xi 1_{2,3} \xi 2_{2,3} +$

$$
\begin{aligned}
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{2,3}-e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{2,3}\,\xi 2_{2,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{2,3}\,\xi 2_{2,3}-e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{2,3}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+2\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{2,3}-e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}+e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}-e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\eta 1_{1,2}\,f_{1,1}[\lambda]-\\
&e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\eta 2_{1,2}\,f_{1,1}[\lambda]+e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{1,1}\,f_{1,1}[\lambda]-e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{2,2}\,f_{1,1}[\lambda]+\\
&e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 1_{1,3}\,\xi 1_{2,3}\,f_{1,1}[\lambda]-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{2,3}\,f_{1,1}[\lambda]-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}\,f_{1,1}[\lambda]+e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda\,\eta 1_{1,3}\,\xi 2_{2,3}\,f_{1,1}[\lambda]+\\
&e^{\lambda\,\xi 2_{1,1}}\in\lambda\,\eta 2_{1,3}\,\xi 2_{2,3}\,f_{1,1}[\lambda]-e^{\lambda\,\xi 2_{1,1}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 2_{2,3}\,f_{1,1}[\lambda]+\\
&e^{\lambda\,\xi 2_{1,1}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{3,3}\,\xi 2_{2,3}\,f_{1,1}[\lambda]+e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\eta 1_{1,2}\,f_{2,2}[\lambda]+\\
&e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\eta 2_{1,2}\,f_{2,2}[\lambda]-e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{1,1}\,f_{2,2}[\lambda]+e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{2,2}\,f_{2,2}[\lambda]+\\
&2\,e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{2,3}\,f_{2,2}[\lambda]-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{2,3}\,f_{2,2}[\lambda]+\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}\,f_{2,2}[\lambda]+e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,f_{2,2}[\lambda]+\\
&e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}}\in\eta 1_{1,3}\,f_{2,3}[\lambda]+e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\eta 2_{1,3}\,f_{2,3}[\lambda]-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,1}\,f_{2,3}[\lambda]+\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{3,3}\,f_{2,3}[\lambda]-e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in g_{1,2}'[\lambda]+\\
&e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{2,2}}\in\lambda\,\xi 1_{2,3}\,g_{1,3}'[\lambda]+e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}}\in\lambda\,\xi 2_{2,3}\,g_{1,3}'[\lambda]==0,\\
&-2\,e^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 1_{2,3}\,\eta 2_{1,2}+e^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{1,1}-\\
&e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,3}\,\eta 2_{1,2}\,\xi 1_{1,2}+2\,e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}-\\
&2\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}+2\,e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}^2\,\xi 1_{1,3}-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,3}-\\
&e^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{2,2}+e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,3}-e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}+e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{2,3}+\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{2,3}+e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}+\\
\text{»}\quad&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}-2\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}+e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 2_{2,2}\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,3}\,\xi 1_{3,3}-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}+\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}-e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\eta 1_{1,3}\,f_{1,1}[\lambda]-\\
&e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\eta 2_{1,3}\,f_{1,1}[\lambda]+e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,1}\,f_{1,1}[\lambda]-e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{3,3}\,f_{1,1}[\lambda]+\\
&e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\eta 1_{1,3}\,f_{3,3}[\lambda]+e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\eta 2_{1,3}\,f_{3,3}[\lambda]-e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,1}\,f_{3,3}[\lambda]+\\
&e^{\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{3,3}\,f_{3,3}[\lambda]-e^{\lambda\,\xi 1_{1,1}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{1,1}-\lambda\,\xi 2_{3,3}}\in g_{1,3}'[\lambda]==0,\\
&-e^{2\,\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{1,2}-2\,e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,2}\,\eta 2_{2,3}\,\xi 1_{1,2}+\\
&e^{2\,\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 1_{1,2}+2\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,2}+\\
&2\,e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}^2+e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}^2-\\
&e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}^2+e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,3}+\\
&e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,3}-e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,3}+e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}-\\
&e^{2\,\lambda\,\xi 1_{2,2}-\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}-e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,2}+\\
&e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,2}+2\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{2,3}\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}^2\,\xi 1_{2,3}-2\,e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}+\\
&2\,e^{\lambda\,\xi 1_{1,1}+\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,3}-\\
&3\,e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,3}+e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}+\\
&2\,e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,2}^2\,\xi 1_{2,3}-e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}^2\,\xi 1_{2,2}\,\xi 1_{2,3}-e^{2\,\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}-\\
&e^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}-\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}+
\end{aligned}
$$

$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 1_{2,3}-e^{2\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}+$$
$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}^2\,\xi 1_{2,3}\,\xi 1_{3,3}-2\,e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 2_{1,2}+$$
$$e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{1,2}+2\,e^{\lambda\xi 1_{1,1}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}$$
$$\in\lambda^3\,\eta 1_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 2_{1,2}-2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 2_{1,2}+$$
$$2\,e^{\lambda\xi 1_{1,1}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 2_{1,2}-e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}^2\,\xi 1_{1,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,3}\,\xi 2_{1,2}-e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in$$
$$\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,2}\,\xi 1_{2,2}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,3}\,\xi 2_{1,2}-e^{\lambda\xi 1_{1,1}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 1_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}$$
$$\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{2,3}\,\xi 2_{1,2}+$$
$$e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 1_{1,3}\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}$$
$$\in\lambda^4\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}-2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in$$
$$\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}-e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 1_{2,3}\,\eta 2_{1,3}\,\xi 1_{2,3}\,\xi 3_{3,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in$$
$$\lambda^5\,\eta 2_{1,3}^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}-e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 1_{1,2}\,f_{1,1}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,2}\,f_{1,1}[\lambda]+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,f_{1,1}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{3,3}\,f_{1,1}[\lambda]-e^{\lambda\xi 1_{1,1}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 2_{1,2}\,f_{1,1}[\lambda]-$$
$$e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 2_{1,2}\,f_{1,1}[\lambda]+e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 2_{1,2}\,f_{1,1}[\lambda]-$$
$$e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 3_{3,3}\,\xi 2_{1,2}\,f_{1,1}[\lambda]-e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 1_{1,3}\,f_{1,2}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 2_{1,3}\,f_{1,2}[\lambda]+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,1}\,f_{1,2}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{3,3}\,f_{1,2}[\lambda]-e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 1_{2,3}\,f_{2,2}[\lambda]-$$
$$e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 2_{2,3}\,f_{2,2}[\lambda]-e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 1_{1,2}\,f_{2,2}[\lambda]+$$
» $$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,2}\,f_{2,2}[\lambda]+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,f_{2,2}[\lambda]+$$
$$e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{2,2}\,f_{2,2}[\lambda]-e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{3,3}\,f_{2,2}[\lambda]-$$
$$e^{\lambda\xi 1_{1,1}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]+$$
$$e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{3,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]+$$
$$e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 1_{2,3}\,f_{3,3}[\lambda]+e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\eta 2_{2,3}\,f_{3,3}[\lambda]+$$
$$e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 1_{1,2}\,f_{3,3}[\lambda]-e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,2}\,f_{3,3}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,f_{3,3}[\lambda]-e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{2,2}\,f_{3,3}[\lambda]+$$
$$e^{\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{3,3}\,f_{3,3}[\lambda]+e^{\lambda\xi 1_{1,1}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 1_{1,3}\,\xi 2_{1,2}\,f_{3,3}[\lambda]+$$
$$e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 2_{1,2}\,f_{3,3}[\lambda]-e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 2_{1,2}\,f_{3,3}[\lambda]+$$
$$e^{\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{3,3}\,\xi 2_{1,2}\,f_{3,3}[\lambda]-e^{\lambda\xi 1_{1,1}+\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\xi 1_{1,2}\,g_{1,3}'[\lambda]-$$
$$e^{\lambda\xi 1_{1,1}-\lambda\xi 1_{3,3}+\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in\lambda\,\xi 2_{1,2}\,g_{1,3}'[\lambda]-e^{\lambda\xi 1_{2,2}-\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}-\lambda\xi 2_{3,3}}\in g_{2,3}'[\lambda]==0,$$
$$2\,e^{\lambda\xi 1_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{1,2}+2\,e^{\lambda\xi 1_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,3}+e^{\lambda\xi 1_{2,2}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}+$$
$$3\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}+$$
$$e^{\lambda\xi 1_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}-\in f_{1,1}'[\lambda]==0,$$
$$e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}^2-e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 1_{1,2}^2+$$
$$2\,e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{1,3}+e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,3}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}-e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{1,3}+$$
$$e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}^2\,\xi 1_{2,2}-e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,3}+$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,3}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}+$$
$$2\,e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}-e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 1_{2,3}+$$
$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 1_{2,3}+e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{3,3}+$$

$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}\,\xi 1_{3,3}+4\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{1,2}+$$
$$2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 2_{1,2}+2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 2_{1,2}-$$
$$2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,2}+6\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+$$
$$2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}+2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}}\in\xi 1_{1,1}\,f_{1,2}[\lambda]-e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}}\in\xi 2_{1,1}\,f_{1,2}[\lambda]-e^{\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\xi 1_{1,2}\,f_{2,2}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda\,\xi 1_{1,1}\,\xi 1_{1,2}\,f_{2,2}[\lambda]-e^{\lambda\xi 2_{2,2}}\in\xi 2_{1,2}\,f_{2,2}[\lambda]-$$
$$e^{\lambda\xi 2_{2,2}}\in\lambda\,\xi 1_{1,1}\,\xi 2_{1,2}\,f_{2,2}[\lambda]+e^{\lambda\xi 2_{2,2}}\in\lambda\,\xi 1_{2,2}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-e^{\lambda\xi 2_{2,2}}\in\lambda\,\xi 2_{1,1}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-$$
$$e^{\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}}\in\lambda\,\xi 1_{1,2}\,f_{1,1}'[\lambda]-e^{\lambda\xi 2_{2,2}}\in\lambda\,\xi 2_{1,2}\,f_{1,1}'[\lambda]-e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}}\in f_{1,2}'[\lambda]==0,$$
$$-2\,e^{\lambda\xi 1_{2,2}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{1,2}-e^{\lambda\xi 1_{2,2}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}+2\,e^{\lambda\xi 1_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{2,3}-$$
$$3\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}-e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}+$$
$$e^{\lambda\xi 1_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}-e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}-\epsilon\,f_{2,2}'[\lambda]==0,$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{1,3}-e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{1,3}+$$
$$e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}^2-e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,3}^2+$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,2}+e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}^2\,\xi 1_{2,3}-$$
$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 1_{2,3}+e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{2,3}+$$
$$e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,3}-2\,e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4$$
$$\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,3}+e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 1_{2,3}-$$
$$e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}+e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}+$$
$$2\,e^{2\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}^2-e^{2\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 1_{2,3}^2+$$
$$e^{2\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 1_{2,3}^2+e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}^2\,\xi 1_{3,3}+$$
$$e^{2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{2,3}\,\xi 1_{3,3}+e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,3}\,\xi 1_{3,3}+$$
$$e^{2\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}^2\,\xi 1_{3,3}+2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,3}\,\xi 2_{1,2}+$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 2_{1,2}+2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+$$
$$e^{2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{2,3}\,\xi 2_{1,2}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}+$$
» $$e^{2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}-e^{2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}^2\,\xi 2_{1,2}+$$
$$3\,e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}^2\,\xi 2_{1,2}+e^{2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{2,3}\,\xi 1_{2,2}\,\xi 1_{2,3}^2\,\xi 2_{1,2}+$$
$$e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}^2\,\xi 2_{1,2}-e^{2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{2,3}\,\xi 1_{2,3}^2\,\xi 1_{3,3}\,\xi 2_{1,2}+$$
$$e^{\lambda\xi 1_{2,2}+2\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}^2\,\xi 1_{3,3}\,\xi 2_{1,2}+2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{1,3}+$$
$$4\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 2_{1,3}+e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 2_{1,3}+$$
$$2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,3}+3\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,3}+$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,3}+2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}\,\xi 2_{1,3}+$$
$$e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,3}+e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,3}+$$
$$e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}^2\,\xi 2_{2,3}-e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 2_{2,3}+$$
$$2\,e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 2_{2,3}+e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,3}\,\xi 2_{2,3}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 2_{2,3}-$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 2_{2,3}+$$
$$e^{2\lambda\xi 1_{2,2}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 2_{2,3}-e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 2_{2,3}+$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+$$
$$e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{2,3}\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{1,3}\,\xi 2_{2,3}+2\,e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}$$
$$\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}\,\xi 2_{2,3}-e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,1}\,\xi 1_{1,2}^2\,\xi 1_{2,3}\,\xi 2_{2,3}+$$
$$e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+e^{\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in$$
$$\lambda^3\,\eta 2_{2,3}\,\xi 1_{1,3}\,\xi 1_{3,3}\,\xi 2_{2,3}+e^{2\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}-\lambda\xi 2_{1,1}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}^2\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}+$$
$$4\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{1,2}\,\xi 2_{2,3}+2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,2}\,\xi 2_{2,3}+$$
$$2\,e^{\lambda\xi 1_{2,2}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{1,2}\,\xi 2_{2,2}\,\xi 2_{2,3}-2\,e^{\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{1,2}\,\xi 2_{2,3}+$$
$$6\,e^{\lambda\xi 1_{2,2}+\lambda\xi 1_{3,3}+\lambda\xi 2_{2,2}+\lambda\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{1,2}\,\xi 2_{2,3}+$$

$$2\,\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}\,\xi 2_{2,3}+$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}\,\xi 2_{1,2}\,\xi 2_{2,3}-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}\,\xi 2_{2,3}+$$
$$2\,\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^5\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{1,2}\,\xi 2_{2,3}-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 1_{2,3}\,f_{1,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,3}\,\xi 2_{1,1}\,f_{1,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 2_{2,3}\,f_{1,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,1}\,\xi 2_{2,3}\,f_{1,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\xi 1_{1,1}\,f_{1,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\xi 2_{1,1}\,f_{1,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,2}\,\xi 1_{2,3}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}\,f_{2,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 1_{2,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]+$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{2,3}\,\xi 2_{1,1}\,\xi 2_{1,2}\,f_{2,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]+$$
$$\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]-\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 2_{1,1}\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{2,2}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\xi 1_{1,2}\,f_{2,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 1_{1,2}\,f_{2,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\xi 2_{1,2}\,f_{2,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 2_{1,2}\,f_{2,3}[\lambda]+$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,2}\,\xi 2_{1,2}\,f_{2,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,1}\,\xi 2_{1,2}\,f_{2,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\xi 1_{1,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 1_{1,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,2}\,\xi 1_{2,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 1_{2,3}\,f_{3,3}[\lambda]+$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,3}\,\xi 2_{1,2}\,f_{3,3}[\lambda]+\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{1,2}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{3,3}}\in\xi 2_{1,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,1}\,\xi 2_{1,3}\,f_{3,3}[\lambda]+\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{3,3}\,\xi 2_{1,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,1}\,\xi 2_{1,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 1_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,1}\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]+\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 2_{1,1}\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{1,3}\,f_{1,1}'[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,2}\,\xi 1_{2,3}\,f_{1,1}'[\lambda]-\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{1,3}\,f_{1,1}'[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}-\lambda\,\xi 2_{1,1}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 1_{1,2}\,\xi 2_{2,3}\,f_{1,1}'[\lambda]-\epsilon^{\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\xi 2_{1,2}\,\xi 2_{2,3}\,f_{1,1}'[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,3}\,f_{1,2}'[\lambda]-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{2,3}\,f_{1,2}'[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in f_{1,3}'[\lambda]==0,$$
$$-2\,\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\eta 2_{1,2}\,\xi 1_{1,3}-\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,3}\,\xi 1_{2,2}-$$
» $$2\,\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,3}-\epsilon^{2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{2,3}-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}-\epsilon^{2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{2,2}\,\xi 1_{2,3}+$$
$$\epsilon^{2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}^2-3\,\epsilon^{\lambda\,\xi 1_{2,2}+2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}^2-$$
$$\epsilon^{2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,2}\,\xi 1_{2,3}^2-\epsilon^{\lambda\,\xi 1_{2,2}+2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}^2+$$
$$\epsilon^{2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}^2\,\xi 1_{3,3}-\epsilon^{\lambda\,\xi 1_{2,2}+2\,\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}^2\,\xi 1_{3,3}-$$
$$2\,\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 2_{2,3}+2\,\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 2_{2,3}-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,2}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 2_{2,3}+4\,\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 2_{2,3}-$$
$$3\,\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 2_{2,3}-\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,2}\,\xi 1_{2,3}\,\xi 2_{2,3}+$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}\,\xi 2_{2,3}+2\,\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^3\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}-$$
$$\epsilon^{\lambda\,\xi 1_{2,2}+\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\lambda^4\,\eta 2_{1,3}\,\xi 1_{1,2}\,\xi 1_{2,3}\,\xi 1_{3,3}\,\xi 2_{2,3}-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\xi 1_{2,2}\,f_{2,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in\xi 2_{2,2}\,f_{2,3}[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\xi 1_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,2}\,\xi 1_{2,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 2_{3,3}}\in\xi 2_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]+\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{3,3}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{2,2}\,\xi 2_{2,3}\,f_{3,3}[\lambda]-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}-\lambda\,\xi 2_{2,2}+\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 1_{2,3}\,f_{2,2}'[\lambda]-\epsilon^{\lambda\,\xi 2_{3,3}}\in\lambda\,\xi 2_{2,3}\,f_{2,2}'[\lambda]-\epsilon^{\lambda\,\xi 1_{3,3}+\lambda\,\xi 2_{3,3}}\in f_{2,3}'[\lambda]==0,$$
$$-2\,\epsilon^{\lambda\,\xi 1_{3,3}}\in\lambda\,\eta 2_{1,3}\,\xi 1_{1,3}-2\,\epsilon^{\lambda\,\xi 1_{3,3}}\in\lambda\,\eta 2_{2,3}\,\xi 1_{2,3}-\epsilon^{\lambda\,\xi 1_{3,3}}\in\lambda^2\,\eta 2_{1,3}\,\xi 1_{1,3}\,\xi 1_{3,3}-$$
$$\epsilon^{\lambda\,\xi 1_{3,3}}\in\lambda^2\,\eta 2_{2,3}\,\xi 1_{2,3}\,\xi 1_{3,3}-\epsilon\,f_{3,3}'[\lambda]==0,$$
$$g_{1,2}[0]==0,\ g_{1,3}[0]==0,\ g_{2,3}[0]==0,\ f_{1,1}[0]==0,\ f_{1,2}[0]==0,\ f_{2,2}[0]==0,$$
$$f_{1,3}[0]==0,\ f_{2,3}[0]==0,\ f_{3,3}[0]==0\}$$

Set: Part 7 of Asymptotics`AsymptoticRSolveValueDump`c$15938[[Asymptotics`AsymptoticRSolveValueDump`i$15938]] does not exist.

Set: Part 8 of Asymptotics`AsymptoticRSolveValueDump`c$15938[[Asymptotics`AsymptoticRSolveValueDump`i$15938]] does not exist.

Set: Part 9 of Asymptotics`AsymptoticRSolveValueDump`c$15938[[Asymptotics`AsymptoticRSolveValueDump`i$15938]] does not exist.

General: Further output of Set::partw will be suppressed during this calculation.

Part: Part 7 of {0, 0, 0, 0, 0, 0} does not exist.

Part: Part 8 of {0, 0, 0, 0, 0, 0} does not exist.

Part: Part 9 of {0, 0, 0, 0, 0, 0} does not exist.

General: Further output of Part::partw will be suppressed during this calculation.

Out[•]=

$Aborted

Dot: Tensors $\{\lambda\,\eta1_{1,2}+e^{-\lambda\,\xi1_{1,1}+\lambda\,\xi1_{2,2}}\,\lambda\,\eta2_{1,2}-e^{-\lambda\,\xi1_{1,1}+2\,\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^3\,\eta2_{1,2}^2\,\xi1_{1,2},\ \lambda\,\xi1_{1,1}+e^{\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^2\,\eta2_{1,2}\,\xi1_{1,2}+\lambda\,\xi2_{1,1},\ e^{-\lambda\,\xi2_{1,1}}\,\lambda\,\xi1_{1,2}+e^{-\lambda\,\xi1_{2,2}}\,\lambda\,\xi2_{1,2}+\epsilon\,\lambda^3\,\eta2_{1,2}\,\xi1_{1,2}\,\xi2_{1,2},\ -e^{\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^2\,\eta2_{1,2}\,\xi1_{1,2}+\lambda\,\xi1_{2,2}+\lambda\,\xi2_{2,2}\}$ and $\{y_{1,2},\ y_{1,3},\ y_{2,3},\ x_{1,1},\ x_{1,2},\ x_{2,2},\ x_{1,3},\ x_{2,3},\ x_{3,3}\}$ have incompatible shapes.

Out[•]=

$$\left\{\lambda\,\eta1_{1,2}+e^{-\lambda\,\xi1_{1,1}+\lambda\,\xi1_{2,2}}\,\lambda\,\eta2_{1,2}-e^{-\lambda\,\xi1_{1,1}+2\,\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^3\,\eta2_{1,2}^2\,\xi1_{1,2},\ \lambda\,\xi1_{1,1}+e^{\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^2\,\eta2_{1,2}\,\xi1_{1,2}+\lambda\,\xi2_{1,1},\ e^{-\lambda\,\xi2_{1,1}}\,\lambda\,\xi1_{1,2}+e^{-\lambda\,\xi1_{2,2}}\,\lambda\,\xi2_{1,2}+\epsilon\,\lambda^3\,\eta2_{1,2}\,\xi1_{1,2}\,\xi2_{1,2},\ -e^{\lambda\,\xi1_{2,2}}\,\epsilon\,\lambda^2\,\eta2_{1,2}\,\xi1_{1,2}+\lambda\,\xi1_{2,2}+\lambda\,\xi2_{2,2}\right\}.\{y_{1,2},\ y_{1,3},\ y_{2,3},\ x_{1,1},\ x_{1,2},\ x_{2,2},\ x_{1,3},\ x_{2,3},\ x_{3,3}\}$$

$$\begin{aligned}\text{osol} = \mathbb{E}_{\{i,j\}\to\{k\}}\Big[&y_{1,2}[k]\,\eta_{1,2}[i]+e^{-\xi_{1,1}[i]+\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]+y_{1,3}[k]\,\eta_{1,3}[i]+\\&e^{-\xi_{1,1}[i]+\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]+y_{2,3}[k]\,\eta_{2,3}[i]+e^{-\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{2,3}[j]+\\&x_{1,1}[k]\,\xi_{1,1}[i]+x_{1,1}[k]\,\xi_{1,1}[j]+e^{-\xi_{1,1}[j]}\,x_{1,2}[k]\,\xi_{1,2}[i]-e^{\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]\,\xi_{1,2}[i]+\\&e^{-\xi_{2,2}[i]}\,x_{1,2}[k]\,\xi_{1,2}[j]+e^{-\xi_{1,1}[j]}\,x_{1,3}[k]\,\xi_{1,3}[i]+e^{-\xi_{3,3}[i]}\,x_{1,3}[k]\,\xi_{1,3}[j]+x_{2,2}[k]\,\xi_{2,2}[i]+\\&x_{2,2}[k]\,\xi_{2,2}[j]+e^{-\xi_{2,2}[j]}\,x_{2,3}[k]\,\xi_{2,3}[i]+e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,3}[j]\,\xi_{2,3}[i]-\\&x_{1,3}[k]\,\xi_{1,2}[j]\,\xi_{2,3}[i]+e^{-\xi_{3,3}[i]}\,x_{2,3}[k]\,\xi_{2,3}[j]+x_{3,3}[k]\,\xi_{3,3}[i]+x_{3,3}[k]\,\xi_{3,3}[j],\\&-e^{-\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,2}[i]\,\eta_{2,3}[j]+e^{\xi_{2,2}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i]-\\&e^{\xi_{2,2}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i]-e^{-\xi_{1,1}[i]+2\,\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i]+\\&e^{\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,2}[i]\,\eta_{1,3}[j]\,\xi_{1,2}[i]+x_{1,2}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i]\,\xi_{1,2}[j]-\\&e^{-\xi_{2,2}[j]}\,x_{2,3}[k]\,\eta_{1,2}[j]\,\xi_{1,3}[i]+e^{\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,3}[j]\,\xi_{1,3}[i]-e^{\xi_{3,3}[i]}\,x_{3,3}[k]\,\eta_{1,3}[j]\,\xi_{1,3}[i]-\\&e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\xi_{1,3}[i]-e^{-\xi_{1,1}[i]+2\,\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]^2\,\xi_{1,3}[i]+\\&e^{-\xi_{1,1}[j]-\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{2,3}[j]\,\xi_{1,3}[i]-e^{-\xi_{2,2}[i]+2\,\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]-\\&e^{-\xi_{1,1}[j]+\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]+e^{2\,\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,3}[i]+\\&x_{1,3}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[j]\,\xi_{1,3}[i]+x_{1,3}[k]\,\eta_{1,3}[j]\,\xi_{1,3}[i]\,\xi_{1,3}[j]+e^{\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{2,3}[j]\,\xi_{2,3}[i]-\\&e^{\xi_{3,3}[i]}\,x_{3,3}[k]\,\eta_{2,3}[j]\,\xi_{2,3}[i]+e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{2,3}[j]\,\xi_{2,3}[i]-\\&e^{-\xi_{1,1}[i]+2\,\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{2,3}[i]-e^{-\xi_{2,2}[i]+2\,\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{2,3}[j]^2\,\xi_{2,3}[i]+\\&e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-\\&2\,e^{-\xi_{1,1}[i]+2\,\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]+\\&e^{2\,\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-\\&e^{-\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{2,3}[j]\,\xi_{1,2}[j]\,\xi_{2,3}[i]+e^{\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,2}[j]\,\xi_{2,3}[i]-\\&e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+2\,\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,3}[i]\,\xi_{2,3}[i]+x_{1,3}[k]\,\eta_{2,3}[j]\,\xi_{1,3}[j]\,\xi_{2,3}[i]-\\&e^{-\xi_{1,1}[i]+2\,\xi_{2,2}[i]+2\,\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{2,3}[i]^2+\\&x_{2,3}[k]\,\eta_{1,3}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[j]+x_{2,3}[k]\,\eta_{2,3}[j]\,\xi_{2,3}[i]\,\xi_{2,3}[j],\end{aligned}$$

$$-\frac{1}{2}\,e^{2\xi_{2,2}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i]^2+\frac{1}{2}\,e^{2\xi_{2,2}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i]^2+$$
$$e^{-\xi_{1,1}[i]+3\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^3\,\xi_{1,2}[i]^2+e^{\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]-$$
$$e^{\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]-e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\eta_{2,3}[j]\,\xi_{1,3}[i]+$$
$$e^{-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,2}[i]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]-e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]$$
$$\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]+e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]+$$
$$2\,e^{-\xi_{1,1}[i]+2\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]-e^{2\xi_{3,3}[i]}\,y_{1,3}[k]$$
$$\eta_{1,2}[i]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,3}[i]+e^{-\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[j]\,\xi_{1,3}[i]-$$
$$e^{\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\xi_{1,2}[i]\,\xi_{1,2}[j]\,\xi_{1,3}[i]-\frac{1}{2}\,e^{2\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,3}[j]^2\,\xi_{1,3}[i]^2+$$
$$\frac{1}{2}\,e^{2\xi_{3,3}[i]}\,x_{3,3}[k]\,\eta_{1,3}[j]^2\,\xi_{1,3}[i]^2+e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]^2\,\xi_{1,3}[i]^2+$$
$$e^{-\xi_{1,1}[i]+3\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]^3\,\xi_{1,3}[i]^2-e^{-\xi_{1,1}[j]-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]^2+$$
$$e^{-\xi_{2,2}[i]+3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]^2\,\eta_{2,3}[j]\,\xi_{1,3}[i]^2+$$
$$e^{-\xi_{1,1}[j]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,3}[i]^2-e^{3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]^3\,\xi_{1,2}[i]\,\xi_{1,3}[i]^2+$$
$$e^{-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,2}[i]\,\eta_{2,3}[j]^2\,\xi_{2,3}[i]+e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]$$
$$\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-e^{\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-$$
$$2\,e^{-\xi_{1,1}[i]+2\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-$$
$$e^{2\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,2}[i]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]-e^{2\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]$$
$$\eta_{1,3}[j]\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]+e^{2\xi_{2,2}[i]+\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]+$$
$$3\,e^{-\xi_{1,1}[i]+3\xi_{2,2}[i]+\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\eta_{1,3}[j]\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]-$$
$$e^{2\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+e^{2\xi_{3,3}[i]}\,x_{3,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]-$$
$$2\,e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$2\,e^{-\xi_{1,1}[i]+3\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]^2\,\eta_{2,3}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]-$$
$$e^{-\xi_{1,1}[j]-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{2,3}[j]^2\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$2\,e^{-\xi_{2,2}[i]+3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]^2\,\xi_{1,3}[i]\,\xi_{2,3}[i]-e^{\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,1}[k]\,\eta_{1,3}[j]^2$$
$$\xi_{1,2}[i]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+e^{\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$4\,e^{-\xi_{1,1}[i]+2\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$e^{-\xi_{1,1}[j]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]\,\xi_{2,3}[i]-$$
$$2\,e^{3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]^2\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$e^{-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]-$$
$$e^{2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]\,\xi_{1,2}[j]\,\xi_{1,3}[i]\,\xi_{2,3}[i]+$$
$$e^{-\xi_{1,1}[i]+\xi_{2,2}[i]+3\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,3}[j]^3\,\xi_{1,3}[i]^2\,\xi_{2,3}[i]-$$
$$\frac{1}{2}\,e^{2\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{2,3}[j]^2\,\xi_{2,3}[i]^2+\frac{1}{2}\,e^{2\xi_{3,3}[i]}\,x_{3,3}[k]\,\eta_{2,3}[j]^2\,\xi_{2,3}[i]^2+$$
$$e^{-\xi_{1,1}[i]+3\xi_{3,3}[i]}\,y_{1,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]^2\,\xi_{2,3}[i]^2+e^{-\xi_{2,2}[i]+3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{2,3}[j]^3\,\xi_{2,3}[i]^2-$$
$$2\,e^{-\xi_{1,1}[i]+2\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]\,\xi_{2,3}[i]^2-$$
$$e^{3\xi_{3,3}[i]}\,y_{2,3}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]^2\,\xi_{1,2}[i]\,\xi_{2,3}[i]^2-\frac{1}{2}\,e^{2\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,1}[k]$$
$$\eta_{1,3}[j]^2\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]^2+\frac{1}{2}\,e^{2\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{2,2}[k]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]^2+$$
$$3\,e^{-\xi_{1,1}[i]+3\xi_{2,2}[i]+2\xi_{3,3}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]\,\eta_{1,3}[j]^2\,\xi_{1,2}[i]^2\,\xi_{2,3}[i]^2+$$
$$e^{-\xi_{2,2}[i]+2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{2,3}[j]^2\,\xi_{1,2}[j]\,\xi_{2,3}[i]^2-e^{2\xi_{3,3}[i]}\,x_{1,2}[k]\,\eta_{1,3}[j]\,\eta_{2,3}[j]\,\xi_{1,2}[i]$$

```
    ξ1,2[j] ξ2,3[i]^2 + 2 e^(-ξ1,1[i]+2 ξ2,2[i]+3 ξ3,3[i]) y1,2[k] η1,3[j]^3 ξ1,2[i] ξ1,3[i] ξ2,3[i]^2 +
    e^(-ξ1,1[i]+3 ξ2,2[i]+3 ξ3,3[i]) y1,2[k] η1,3[j]^3 ξ1,2[i]^2 ξ2,3[i]^3];
osol = (List @@ osol).Table[ϵ^k, {k, 0, Length[osol] - 1}]
```

Out[•]=

$$y_{1,2}[k]\,\eta_{1,2}[i] + e^{-\xi_{1,1}[i]+\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j] + x_{1,1}[k]\,\xi_{1,1}[i] + x_{1,1}[k]\,\xi_{1,1}[j] + e^{-\xi_{1,1}[j]}\,x_{1,2}[k]\,\xi_{1,2}[i] + \epsilon^2\left(-\frac{1}{2}e^{2\xi_{2,2}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i]^2 + \frac{1}{2}e^{2\xi_{2,2}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i]^2 + e^{-\xi_{1,1}[i]+3\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^3\,\xi_{1,2}[i]^2\right) + e^{-\xi_{2,2}[i]}\,x_{1,2}[k]\,\xi_{1,2}[j] + \epsilon\left(e^{\xi_{2,2}[i]}\,x_{1,1}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i] - e^{\xi_{2,2}[i]}\,x_{2,2}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i] - e^{-\xi_{1,1}[i]+2\xi_{2,2}[i]}\,y_{1,2}[k]\,\eta_{1,2}[j]^2\,\xi_{1,2}[i] + x_{1,2}[k]\,\eta_{1,2}[j]\,\xi_{1,2}[i]\,\xi_{1,2}[j]\right) + x_{2,2}[k]\,\xi_{2,2}[i] + x_{2,2}[k]\,\xi_{2,2}[j]$$

In[•]:=
```
CF[(Expand@sol[$k].$Basis /. {ξ1αβ__ :> ξαβ[i], η1αβ__ :> ηαβ[i],
    ξ2αβ__ :> ξαβ[j], η2αβ__ :> ηαβ[j], λ → 1}) - (osol /. ν_[k] :> ν)]
```

Out[•]=

$$0$$