

Pensieve header: Knots with Source Terms.

## Startup

```
In[ ]:= Date[]
SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\FullDoPeGDO"];
Once[<< KnotTheory`];
Once[Get@"./Profile/Profile.m"];
BeginProfile[];
$k = 0;
<< Engine.m
<< Objects.m
<< KT.m
```

```
Out[ ]:= {2022, 6, 14, 4, 58, 17.5507255}
```

Loading KnotTheory` version of February 2, 2020, 10:53:45.2097.

Read more at <http://katlas.org/wiki/KnotTheory>.

This is Profile.m of <http://www.drorbn.net/AcademicPensieve/Projects/Profile/>.

This version: April 2020. Original version: July 1994.

## Utilities

```
In[ ]:= HL[ $\mathcal{E}$ _] := Style[ $\mathcal{E}$ , Background  $\rightarrow$  If[TrueQ@ $\mathcal{E}$ ,  $\square$ ,  $\square$ ]]];
```

## Z with Sources

```
In[ ]:= UZ[K_] := UZ[RVK@EchoFunction[Width]@ThinPosition[K, 100]];
UZ[rvk_RVK] := Monitor[PP"z"@Module[{ $\xi$ , done, st, c,  $\chi$ , i, j, k},
   $\xi = 1$ ; done = {}; st = Range[2 Length[rvk[[1]]]]; $M = {};
  Do[AppendTo[$M, c];
    {i, j} = List@@c;
     $\chi = (c /. \{_Xp \Rightarrow kR_{i,j} \overline{kKink}_0, _Xm \Rightarrow \overline{kR}_{i,j} kKink_0\}) // km_{j,0 \rightarrow j}$ ;
    Do[ $\chi = (\text{rot}[0, rvk[[2, k]] \chi) // km_{0,k \rightarrow k}, \{k, \{i, j\}\}$ ];
    Do[ $\chi = (\Delta 2E_{\{\} \rightarrow \{0\}} [\xi_{-k} x_0 + \eta_{-k} y_0 + \alpha_{-k} a_0] \chi) // km_{0,k \rightarrow k}, \{k, \{i, j\}\}$ ];
     $\xi *= \chi$ ;
    Do[
      If[MemberQ[done, k + 1],  $\xi = \xi // km_{k,k+1 \rightarrow k}$ ; st = st /. k + 1  $\rightarrow$  k];
      If[MemberQ[done, k - 1],  $\xi = \xi // km_{st[[k-1], k \rightarrow st[[k-1]]}$ ; st = st /. k  $\rightarrow$  st[[k - 1]],
        {k, {i, j}}];
      done = done  $\cup$  {i, j},
      {c, rvk[[1]]}
    ];
  CF /@ ( $\xi /. \{x_1 \rightarrow x, y_1 \rightarrow y, a_1 \rightarrow a\}$ )
], {Length@$M, $M}]
```































$$\begin{aligned}
 & 5 T A_9 A_7 A_5 A_3 - 10 T^2 A_9 A_7 A_5 A_3 + 10 T^3 A_9 A_7 A_5 A_3 - 5 T^4 A_9 A_7 A_5 A_3 + \\
 & T^5 A_9 A_7 A_5 A_3 + T^2 A_{10} A_9 A_7 A_6 A_5 A_3 - 3 T^3 A_{10} A_9 A_7 A_6 A_5 A_3 + \\
 & 3 T^4 A_{10} A_9 A_7 A_6 A_5 A_3 - T^5 A_{10} A_9 A_7 A_6 A_5 A_3 + T^2 A_{10} A_9 A_3 A_2 - T^3 A_{10} A_9 A_3 A_2 + \\
 & T^2 A_5 A_4 A_3 A_2 - T^3 A_5 A_4 A_3 A_2 - T^3 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + 2 T^4 A_9 A_8 A_7 A_5 \\
 & A_4 A_3 A_2 - T^5 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + T^5 A_{10} A_9 A_8 A_7 A_6 A_5 A_4 A_3 A_2) - \\
 & ((-1 + T) T A_9 A_4 A_3 (-A_7 A_5 + 4 T A_7 A_5 - 6 T^2 A_7 A_5 + 4 T^3 A_7 A_5 - T^4 A_7 A_5 + \\
 & T^2 A_{10} A_7 A_6 A_5 - 2 T^3 A_{10} A_7 A_6 A_5 + T^4 A_{10} A_7 A_6 A_5 + T^2 A_{10} A_2) \eta_9 \xi_4) / \\
 & (\hbar (A_5 - 2 T A_5 + T^2 A_5 - T A_9 A_8 A_7 A_5 + 3 T^2 A_9 A_8 A_7 A_5 - 3 T^3 A_9 A_8 A_7 A_5 + \\
 & T^4 A_9 A_8 A_7 A_5 + T^3 A_{10} A_9 A_8 A_7 A_6 A_5 - T^4 A_{10} A_9 A_8 A_7 A_6 A_5 - A_9 A_7 A_5 A_3 + \\
 & 5 T A_9 A_7 A_5 A_3 - 10 T^2 A_9 A_7 A_5 A_3 + 10 T^3 A_9 A_7 A_5 A_3 - 5 T^4 A_9 A_7 A_5 A_3 + \\
 & T^5 A_9 A_7 A_5 A_3 + T^2 A_{10} A_9 A_7 A_6 A_5 A_3 - 3 T^3 A_{10} A_9 A_7 A_6 A_5 A_3 + \\
 & 3 T^4 A_{10} A_9 A_7 A_6 A_5 A_3 - T^5 A_{10} A_9 A_7 A_6 A_5 A_3 + T^2 A_{10} A_9 A_3 A_2 - T^3 A_{10} A_9 A_3 A_2 + \\
 & T^2 A_5 A_4 A_3 A_2 - T^3 A_5 A_4 A_3 A_2 - T^3 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + 2 T^4 A_9 A_8 A_7 A_5 \\
 & A_4 A_3 A_2 - T^5 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + T^5 A_{10} A_9 A_8 A_7 A_6 A_5 A_4 A_3 A_2) - \\
 & ((-1 + T) T A_9 A_8 A_4 A_3 (-A_7 A_5 + 4 T A_7 A_5 - 6 T^2 A_7 A_5 + 4 T^3 A_7 A_5 - T^4 A_7 A_5 + \\
 & T^2 A_{10} A_7 A_6 A_5 - 2 T^3 A_{10} A_7 A_6 A_5 + T^4 A_{10} A_7 A_6 A_5 + T^2 A_{10} A_2) \eta_8 \xi_4) / \\
 & (\hbar (A_5 - 2 T A_5 + T^2 A_5 - T A_9 A_8 A_7 A_5 + 3 T^2 A_9 A_8 A_7 A_5 - 3 T^3 A_9 A_8 A_7 A_5 + \\
 & T^4 A_9 A_8 A_7 A_5 + T^3 A_{10} A_9 A_8 A_7 A_6 A_5 - T^4 A_{10} A_9 A_8 A_7 A_6 A_5 - A_9 A_7 A_5 A_3 + \\
 & 5 T A_9 A_7 A_5 A_3 - 10 T^2 A_9 A_7 A_5 A_3 + 10 T^3 A_9 A_7 A_5 A_3 - 5 T^4 A_9 A_7 A_5 A_3 + \\
 & T^5 A_9 A_7 A_5 A_3 + T^2 A_{10} A_9 A_7 A_6 A_5 A_3 - 3 T^3 A_{10} A_9 A_7 A_6 A_5 A_3 + \\
 & 3 T^4 A_{10} A_9 A_7 A_6 A_5 A_3 - T^5 A_{10} A_9 A_7 A_6 A_5 A_3 + T^2 A_{10} A_9 A_3 A_2 - T^3 A_{10} A_9 A_3 A_2 + \\
 & T^2 A_5 A_4 A_3 A_2 - T^3 A_5 A_4 A_3 A_2 - T^3 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + 2 T^4 A_9 A_8 A_7 A_5 \\
 & A_4 A_3 A_2 - T^5 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + T^5 A_{10} A_9 A_8 A_7 A_6 A_5 A_4 A_3 A_2) - \\
 & ((-1 + T) T A_7 A_4 A_3 (-A_5 + 3 T A_5 - 3 T^2 A_5 + T^3 A_5 + T^3 A_{10} A_9 A_8 A_2) \eta_7 \xi_4) / \\
 & (\hbar (A_5 - 2 T A_5 + T^2 A_5 - T A_9 A_8 A_7 A_5 + 3 T^2 A_9 A_8 A_7 A_5 - 3 T^3 A_9 A_8 A_7 A_5 + \\
 & T^4 A_9 A_8 A_7 A_5 + T^3 A_{10} A_9 A_8 A_7 A_6 A_5 - T^4 A_{10} A_9 A_8 A_7 A_6 A_5 - A_9 A_7 A_5 A_3 + \\
 & 5 T A_9 A_7 A_5 A_3 - 10 T^2 A_9 A_7 A_5 A_3 + 10 T^3 A_9 A_7 A_5 A_3 - 5 T^4 A_9 A_7 A_5 A_3 + \\
 & T^5 A_9 A_7 A_5 A_3 + T^2 A_{10} A_9 A_7 A_6 A_5 A_3 - 3 T^3 A_{10} A_9 A_7 A_6 A_5 A_3 + \\
 & 3 T^4 A_{10} A_9 A_7 A_6 A_5 A_3 - T^5 A_{10} A_9 A_7 A_6 A_5 A_3 + T^2 A_{10} A_9 A_3 A_2 - T^3 A_{10} A_9 A_3 A_2 + \\
 & T^2 A_5 A_4 A_3 A_2 - T^3 A_5 A_4 A_3 A_2 - T^3 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + 2 T^4 A_9 A_8 A_7 A_5 \\
 & A_4 A_3 A_2 - T^5 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + T^5 A_{10} A_9 A_8 A_7 A_6 A_5 A_4 A_3 A_2) - \\
 & ((-1 + T) T A_7 A_6 A_4 A_3 (-A_5 + 3 T A_5 - 3 T^2 A_5 + T^3 A_5 + T^3 A_{10} A_9 A_8 A_2) \eta_6 \xi_4) / \\
 & (\hbar (A_5 - 2 T A_5 + T^2 A_5 - T A_9 A_8 A_7 A_5 + 3 T^2 A_9 A_8 A_7 A_5 - 3 T^3 A_9 A_8 A_7 A_5 + \\
 & T^4 A_9 A_8 A_7 A_5 + T^3 A_{10} A_9 A_8 A_7 A_6 A_5 - T^4 A_{10} A_9 A_8 A_7 A_6 A_5 - A_9 A_7 A_5 A_3 + \\
 & 5 T A_9 A_7 A_5 A_3 - 10 T^2 A_9 A_7 A_5 A_3 + 10 T^3 A_9 A_7 A_5 A_3 - 5 T^4 A_9 A_7 A_5 A_3 + \\
 & T^5 A_9 A_7 A_5 A_3 + T^2 A_{10} A_9 A_7 A_6 A_5 A_3 - 3 T^3 A_{10} A_9 A_7 A_6 A_5 A_3 + \\
 & 3 T^4 A_{10} A_9 A_7 A_6 A_5 A_3 - T^5 A_{10} A_9 A_7 A_6 A_5 A_3 + T^2 A_{10} A_9 A_3 A_2 - T^3 A_{10} A_9 A_3 A_2 + \\
 & T^2 A_5 A_4 A_3 A_2 - T^3 A_5 A_4 A_3 A_2 - T^3 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + 2 T^4 A_9 A_8 A_7 A_5 \\
 & A_4 A_3 A_2 - T^5 A_9 A_8 A_7 A_5 A_4 A_3 A_2 + T^5 A_{10} A_9 A_8 A_7 A_6 A_5 A_4 A_3 A_2) - \\
 & ((-1 + T) T^2 (1 - T - T A_9 A_8 A_7 + 2 T^2 A_9 A_8 A_7 - T^3 A_9 A_8 A_7 + T^3 A_{10} A_9 A_8 A_7 A_6) \\
 & A_5 A_4 A_3 A_2 \eta_5 \xi_4) / \\
 & (\hbar (A_5 - 2 T A_5 + T^2 A_5 - T A_9 A_8 A_7 A_5 + 3 T^2 A_9 A_8 A_7 A_5 - 3 T^3 A_9 A_8 A_7 A_5 +
 \end{aligned}$$















$$\begin{aligned}
 & 2 T^2 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 - T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 + T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4) \mathcal{A}_3 \eta_3 \xi_{-1}) / \\
 & (\hbar (\mathcal{A}_5 - 2 T \mathcal{A}_5 + T^2 \mathcal{A}_5 - T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + 3 T^2 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 - 3 T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + \\
 & T^4 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 - T^4 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 - \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + \\
 & 5 T \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 - 10 T^2 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + 10 T^3 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 - 5 T^4 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + \\
 & T^5 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + T^2 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 - 3 T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 + \\
 & 3 T^4 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 - T^5 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 + T^2 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_3 \mathcal{A}_2 + \\
 & T^2 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 + 2 T^4 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \\
 & \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^5 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 + T^5 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2)) - \\
 & ((-1 + T) T (\mathcal{A}_{10} \mathcal{A}_9 - T \mathcal{A}_{10} \mathcal{A}_9 + \mathcal{A}_5 \mathcal{A}_4 - T \mathcal{A}_5 \mathcal{A}_4 - T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 + 2 T^2 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 - \\
 & T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 + T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4) \mathcal{A}_3 \mathcal{A}_2 \eta_2 \xi_{-1}) / \\
 & (\hbar (\mathcal{A}_5 - 2 T \mathcal{A}_5 + T^2 \mathcal{A}_5 - T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + 3 T^2 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 - 3 T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + \\
 & T^4 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 + T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 - T^4 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 - \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + \\
 & 5 T \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 - 10 T^2 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + 10 T^3 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 - 5 T^4 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + \\
 & T^5 \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_3 + T^2 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 - 3 T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 + \\
 & 3 T^4 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 - T^5 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_3 + T^2 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_3 \mathcal{A}_2 + \\
 & T^2 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^3 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 + 2 T^4 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \\
 & \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 - T^5 \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2 + T^5 \mathcal{A}_{10} \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2)) ]
 \end{aligned}$$

In[\*]:= Cases [UZ[Knot [3, 1]], Log[d\_] => Simplify[d], ∞]

» 4

$$\text{Out[*]} = \left\{ \frac{T^3 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2}{-(((-1 + T) \mathcal{A}_3 ((-1 + T)^2 \mathcal{A}_5 + T \mathcal{A}_2)) + T \mathcal{A}_6 \mathcal{A}_5 (1 - T + T^2 \mathcal{A}_4 \mathcal{A}_3 \mathcal{A}_2))} \right\}$$

In[\*]:= Cases [UZ[Knot [8, 17]], Log[d\_] => Simplify[d], ∞]

» 6

$$\begin{aligned}
 \text{Out[*]} = & \left\{ - \left( \left( \mathcal{A}_{15} \mathcal{A}_{14} \mathcal{A}_{12} \mathcal{A}_{11} \mathcal{A}_{10} \right. \right. \\
 & \left. \left. \sqrt{\left( \left( T^8 \mathcal{A}_{13}^2 \mathcal{A}_9^2 \mathcal{A}_8^2 \mathcal{A}_7^2 \mathcal{A}_6^2 \mathcal{A}_5^2 \mathcal{A}_4^2 \mathcal{A}_3^2 \right) / \left( (-1 + T) \mathcal{A}_4 \left( (-1 + T)^3 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 + T^3 \mathcal{A}_{13} \mathcal{A}_3 \right) - \right. \right. \right. \\
 & \left. \left. \left. T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \left( -(-1 + T)^2 + T^3 \mathcal{A}_{13} \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \right) \right)^2 \right) \right. \\
 & \left. \left( - \left( (-1 + T) \mathcal{A}_4 \left( (-1 + T)^3 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 + T^3 \mathcal{A}_{13} \mathcal{A}_3 \right) \right) + T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \right. \right. \\
 & \left. \left. \left( -(-1 + T)^2 + T^3 \mathcal{A}_{13} \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \right) \right) \right) / \left( (-1 + T) T \mathcal{A}_{10} \right. \\
 & \left. \left( (-1 + T)^2 \mathcal{A}_{14} \mathcal{A}_8 \left( T \mathcal{A}_9 + (-1 + T)^2 \mathcal{A}_4 \right) + T^2 \left( -1 + T - T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \right) \mathcal{A}_4 \mathcal{A}_3 \right) + \right. \\
 & \left. \mathcal{A}_{15} \mathcal{A}_{14} \left( (-1 + T) T^2 \left( 1 + (-1 + T) \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \mathcal{A}_5 \mathcal{A}_4 \right) + \right. \right. \\
 & \left. \left. \mathcal{A}_{12} \mathcal{A}_{11} \mathcal{A}_{10} \left( (-1 + T) \mathcal{A}_4 \left( (-1 + T)^3 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 + T^3 \mathcal{A}_{13} \mathcal{A}_3 \right) + \right. \right. \right. \\
 & \left. \left. \left. T \mathcal{A}_9 \mathcal{A}_8 \mathcal{A}_7 \mathcal{A}_6 \left( (-1 + T)^2 - T^3 \mathcal{A}_{13} \mathcal{A}_5 \mathcal{A}_4 \mathcal{A}_3 \right) \right) \right) \right) \right\}
 \end{aligned}$$

In[ ]:= **Z817** =

$$\left\{ - \left( \left( \mathcal{A}_{-15} \mathcal{A}_{-14} \mathcal{A}_{-12} \mathcal{A}_{-11} \mathcal{A}_{-10} \sqrt{\left( \left( T^8 \mathcal{A}_{-13}^2 \mathcal{A}_{-9}^2 \mathcal{A}_{-8}^2 \mathcal{A}_{-7}^2 \mathcal{A}_{-6}^2 \mathcal{A}_{-5}^2 \mathcal{A}_{-4}^2 \mathcal{A}_{-3}^2 \right) / \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) - T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( -(-1+T)^2 + T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right)^2 \right) \right. \right. \\ \left. \left( - \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) \right) + T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( -(-1+T)^2 + T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right) \right) / \left( (-1+T) T \mathcal{A}_{-10} \right. \\ \left. \left( (-1+T)^2 \mathcal{A}_{-14} \mathcal{A}_{-8} \left( T \mathcal{A}_{-9} + (-1+T)^2 \mathcal{A}_{-4} \right) + T^2 \left( -1+T - T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \mathcal{A}_{-5} \right) \mathcal{A}_{-4} \mathcal{A}_{-3} \right) + \right. \\ \left. \mathcal{A}_{-15} \mathcal{A}_{-14} \left( (-1+T) T^2 \left( 1 + (-1+T) \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \mathcal{A}_{-5} \mathcal{A}_{-4} \right) + \right. \right. \\ \left. \left. \mathcal{A}_{-12} \mathcal{A}_{-11} \mathcal{A}_{-10} \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) + \right. \right. \right. \\ \left. \left. \left. T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( (-1+T)^2 - T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right) \right) \right) \right) \right\}$$

$$\text{Out[ ]} = \left\{ - \left( \left( \mathcal{A}_{-15} \mathcal{A}_{-14} \mathcal{A}_{-12} \mathcal{A}_{-11} \mathcal{A}_{-10} \sqrt{\left( \left( T^8 \mathcal{A}_{-13}^2 \mathcal{A}_{-9}^2 \mathcal{A}_{-8}^2 \mathcal{A}_{-7}^2 \mathcal{A}_{-6}^2 \mathcal{A}_{-5}^2 \mathcal{A}_{-4}^2 \mathcal{A}_{-3}^2 \right) / \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) - \right. \right. \right. \right. \\ \left. \left. \left. T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( -(-1+T)^2 + T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right) \right)^2 \right) \right. \\ \left. \left( - \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) \right) + T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( -(-1+T)^2 + T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right) \right) / \left( (-1+T) T \mathcal{A}_{-10} \right. \\ \left. \left( (-1+T)^2 \mathcal{A}_{-14} \mathcal{A}_{-8} \left( T \mathcal{A}_{-9} + (-1+T)^2 \mathcal{A}_{-4} \right) + T^2 \left( -1+T - T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \mathcal{A}_{-5} \right) \mathcal{A}_{-4} \mathcal{A}_{-3} \right) + \right. \\ \left. \mathcal{A}_{-15} \mathcal{A}_{-14} \left( (-1+T) T^2 \left( 1 + (-1+T) \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \mathcal{A}_{-5} \mathcal{A}_{-4} \right) + \right. \right. \\ \left. \left. \mathcal{A}_{-12} \mathcal{A}_{-11} \mathcal{A}_{-10} \left( (-1+T) \mathcal{A}_{-4} \left( (-1+T)^3 \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} + T^3 \mathcal{A}_{-13} \mathcal{A}_{-3} \right) + \right. \right. \right. \\ \left. \left. \left. T \mathcal{A}_{-9} \mathcal{A}_{-8} \mathcal{A}_{-7} \mathcal{A}_{-6} \left( (-1+T)^2 - T^3 \mathcal{A}_{-13} \mathcal{A}_{-5} \mathcal{A}_{-4} \mathcal{A}_{-3} \right) \right) \right) \right) \right) \right\}$$

In[ ]:= **Simplify**[Z817 /.  $\mathcal{A}_- \rightarrow 1$ ]

$$\text{Out[ ]} = \left\{ \frac{\sqrt{\frac{T^8}{(1-3T+4T^2-4T^3+T^4)^2}} (1-3T+4T^2-4T^3+T^4)}{1-4T+8T^2-11T^3+8T^4-4T^5+T^6} \right\}$$

In[ ]:= **Alexander**[Knot[8, 17]] [T]

$$\text{Out[ ]} = 11 - \frac{1}{T^3} + \frac{4}{T^2} - \frac{8}{T} - 8T + 4T^2 - T^3$$

```

In[ ]:= uZ[K_] := uZ[RVK@EchoFunction[Width]@ThinPosition[K, 100]];
uZ[rvk_RVK] := Monitor[PP"z"@Module[{ξ, done, st, c, χ, i, j, k},
  ξ = 1; done = {}; st = Range[2 Length[rvk[[1]]]; $M = {};
  Do[AppendTo[$M, c];
    {i, j} = List@@c;
    χ = (c /. {_Xp :-> kR_{i,j} kKink_0, _Xm :-> kR_{i,j} kKink_0}) // km_{j,0->j};
    Do[χ = (rot[0, rvk[[2, k]] χ) // km_{0,k->k}, {k, {i, j}}];
    Do[χ = (Δ2E_{i->j} [ξ-k X_0 + η-k Y_0] χ) // km_{0,k->k}, {k, {i, j}}];
    ξ *= χ;
    Do[
      If[MemberQ[done, k + 1], ξ = ξ // km_{k,k+1->k}; st = st /. k + 1 -> k];
      If[MemberQ[done, k - 1], ξ = ξ // km_{st[[k-1]],k->st[[k-1]}}; st = st /. k -> st[[k-1]],
        {k, {i, j}}];
    done = done ∪ {i, j},
    {c, rvk[[1]]}
  ];
  CF /@ (ξ /. {x_1 -> x, y_1 -> y, a_1 -> a})
], {Length@$M, $M}]

```

```

In[ ]:= uZ[Knot[3, 1]]

```

» 4

$$\begin{aligned}
 \text{Out[ ]} = & \mathbb{E}_{\{i\} \rightarrow \{1\}} \left[ -2 \mathfrak{t} \hbar + \text{Log} \left[ \frac{\mathfrak{T}^3}{1 - \mathfrak{T} + \mathfrak{T}^2} \right] + \mathfrak{y} \eta_{-6} + \mathfrak{y} \eta_{-5} + \mathfrak{y} \eta_{-4} + \mathfrak{y} \eta_{-3} + \mathfrak{y} \eta_{-2} + \mathfrak{y} \eta_{-1} + \mathfrak{T} \mathfrak{x} \xi_{-6} - \frac{(-1 + \mathfrak{T})^2 \eta_{-6} \xi_{-6}}{\hbar} - \right. \\
 & \frac{(-1 + \mathfrak{T})^2 \mathfrak{T}^2 \eta_{-5} \xi_{-6}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T}^2 \eta_{-4} \xi_{-6}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^3 \mathfrak{T} \eta_{-3} \xi_{-6}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^3 \mathfrak{T} \eta_{-2} \xi_{-6}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} + \\
 & \mathfrak{x} \xi_{-5} - \frac{(-1 + \mathfrak{T}) \eta_{-6} \xi_{-5}}{\hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T} \eta_{-5} \xi_{-5}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T} \eta_{-4} \xi_{-5}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^3 \eta_{-3} \xi_{-5}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \\
 & \frac{(-1 + \mathfrak{T})^3 \eta_{-2} \xi_{-5}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} + \mathfrak{T} \mathfrak{x} \xi_{-4} - \frac{(-1 + \mathfrak{T}) \mathfrak{T} \eta_{-6} \xi_{-4}}{\hbar} - \frac{(-1 + \mathfrak{T}) \mathfrak{T}^3 \eta_{-5} \xi_{-4}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 (1 + \mathfrak{T}^2) \eta_{-4} \xi_{-4}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \\
 & \frac{(-1 + \mathfrak{T})^2 \mathfrak{T}^2 \eta_{-3} \xi_{-4}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T}^2 \eta_{-2} \xi_{-4}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} + \mathfrak{x} \xi_{-3} - \frac{(-1 + \mathfrak{T}) \eta_{-6} \xi_{-3}}{\hbar} - \frac{(-1 + \mathfrak{T}) \mathfrak{T}^2 \eta_{-5} \xi_{-3}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \\
 & \frac{(-1 + \mathfrak{T}) \mathfrak{T}^2 \eta_{-4} \xi_{-3}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T} \eta_{-3} \xi_{-3}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} - \frac{(-1 + \mathfrak{T})^2 \mathfrak{T} \eta_{-2} \xi_{-3}}{(1 - \mathfrak{T} + \mathfrak{T}^2) \hbar} + \mathfrak{T} \mathfrak{x} \xi_{-2} - \frac{(-1 + \mathfrak{T}) \mathfrak{T} \eta_{-6} \xi_{-2}}{\hbar} - \\
 & \frac{(-1 + \mathfrak{T}) \mathfrak{T} \eta_{-5} \xi_{-2}}{\hbar} - \frac{(-1 + \mathfrak{T}) \mathfrak{T} \eta_{-4} \xi_{-2}}{\hbar} - \frac{(-1 + \mathfrak{T}) \mathfrak{T} \eta_{-3} \xi_{-2}}{\hbar} - \frac{(-1 + \mathfrak{T})^2 \eta_{-2} \xi_{-2}}{\hbar} + \mathfrak{x} \xi_{-1} - \\
 & \left. \frac{(-1 + \mathfrak{T}) \eta_{-6} \xi_{-1}}{\hbar} - \frac{(-1 + \mathfrak{T}) \eta_{-5} \xi_{-1}}{\hbar} - \frac{(-1 + \mathfrak{T}) \eta_{-4} \xi_{-1}}{\hbar} - \frac{(-1 + \mathfrak{T}) \eta_{-3} \xi_{-1}}{\hbar} - \frac{(-1 + \mathfrak{T}) \eta_{-2} \xi_{-1}}{\hbar} \right]
 \end{aligned}$$

```

In[ ]:= uZ[Knot[8, 17]]

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» 6

$$\begin{aligned}
 & \text{Out}[*]= \mathbb{E}_{\{\} \rightarrow \{1\}} \left[ \right. \\
 & -t \hbar + \text{Log} \left[ \frac{\sqrt{\frac{T^8}{(1-3T+4T^2-4T^3+T^4)^2}} (1-3T+4T^2-4T^3+T^4)}{1-4T+8T^2-11T^3+8T^4-4T^5+T^6} \right] + y \eta_{-16} + y \eta_{-15} + y \eta_{-14} + y \eta_{-13} + y \eta_{-12} + \\
 & y \eta_{-11} + y \eta_{-10} + y \eta_{-9} + y \eta_{-8} + y \eta_{-7} + y \eta_{-6} + y \eta_{-5} + y \eta_{-4} + y \eta_{-3} + y \eta_{-2} + y \eta_{-1} + T x \xi_{-16} + x \xi_{-15} - \\
 & \frac{(-1+T)(-1+2T)(-1+T-2T^2+T^3)\eta_{-16}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \frac{(-1+T)^2T(1-3T+3T^2-3T^3+T^4)\eta_{-15}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^2T^2\eta_{-14}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^2T^2\eta_{-13}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \\
 & \frac{(-1+T)^2(1-3T+4T^2-4T^3+T^4)\eta_{-12}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \frac{(-1+T)^2(1-3T+4T^2-4T^3+T^4)\eta_{-11}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T^2\eta_{-10}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T^2\eta_{-9}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T(1-T+T^2)\eta_{-8}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T(1-T+T^2)\eta_{-7}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3(1-T+T^2)\eta_{-6}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3(1-T+T^2)\eta_{-5}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T\eta_{-4}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T\eta_{-3}\xi_{-15}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \\
 & T x \xi_{-14} - \frac{(-1+T)T(-1+2T)(-1+T-2T^2+T^3)\eta_{-16}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)T(-1+2T)(-1+T-2T^2+T^3)\eta_{-15}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^2T^3\eta_{-14}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^2T^3\eta_{-13}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \frac{(-1+T)^2T(1-3T+4T^2-4T^3+T^4)\eta_{-12}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} + \\
 & \frac{(-1+T)^2T(1-3T+4T^2-4T^3+T^4)\eta_{-11}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T^3\eta_{-10}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T^3\eta_{-9}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T^2(1-T+T^2)\eta_{-8}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T^2(1-T+T^2)\eta_{-7}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T(1-T+T^2)\eta_{-6}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \frac{(-1+T)^3T(1-T+T^2)\eta_{-5}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \frac{(-1+T)^3T^2\eta_{-4}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} - \\
 & \left. \frac{(-1+T)^3T^2\eta_{-4}\xi_{-14}}{(1-4T+8T^2-11T^3+8T^4-4T^5+T^6)\hbar} \right]
 \end{aligned}$$

$$\begin{aligned}
& \frac{(-1 + T)^3 T^2 \eta_{-3} \xi_{-14}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + T^2 x \xi_{-13} - \frac{(-1 + T) T^2 (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-16} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} - \\
& \frac{(-1 + T) T^2 (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-15} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 \eta_{-14} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^3 (1 - T + T^2)^2 \eta_{-13} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^4 T^2 (1 - T + T^2) \eta_{-12} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^4 T^2 (1 - T + T^2) \eta_{-11} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^3 \eta_{-10} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T^3 \eta_{-9} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 (1 - T + T^2) \eta_{-8} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T^2 (1 - T + T^2) \eta_{-7} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-6} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-5} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 \eta_{-4} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T^2 \eta_{-3} \xi_{-13}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + T x \xi_{-12} - \frac{(-1 + T) T (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-16} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} - \\
& \frac{(-1 + T) T (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-15} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 \eta_{-14} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 \eta_{-13} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^4 T (1 - T + T^2) \eta_{-12} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^4 T (1 - T + T^2) \eta_{-11} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 \eta_{-10} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T^2 \eta_{-9} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-8} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-7} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 (1 - T + T^2) \eta_{-6} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 (1 - T + T^2) \eta_{-5} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T \eta_{-4} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T \eta_{-3} \xi_{-12}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + x \xi_{-11} - \frac{(-1 + T) T (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-16} \xi_{-11}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} - \\
& \frac{(-1 + T) T (1 - 3T + 3T^2 - 3T^3 + T^4) \eta_{-15} \xi_{-11}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 \eta_{-14} \xi_{-11}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} +
\end{aligned}$$

$$\begin{aligned}
 & \frac{(-1 + T) T^2 \eta_{-13} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \frac{(-1 + T) (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-12} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^4 T (1 - T + T^2) \eta_{-11} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 \eta_{-10} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^2 \eta_{-9} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-8} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-7} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 (1 - T + T^2) \eta_{-6} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 (1 - T + T^2) \eta_{-5} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T \eta_{-4} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T \eta_{-3} \xi_{-11}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + T \times \xi_{-10} - \frac{(-1 + T) T^2 (1 - 3 T + 3 T^2 - 3 T^3 + T^4) \eta_{-16} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \\
 & \frac{(-1 + T) T^2 (1 - 3 T + 3 T^2 - 3 T^3 + T^4) \eta_{-15} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 \eta_{-14} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^3 \eta_{-13} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \frac{(-1 + T) T (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-12} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \\
 & \frac{(-1 + T) T (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-11} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^3 \eta_{-10} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^3 \eta_{-9} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 (1 - T + T^2) \eta_{-8} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^2 (1 - T + T^2) \eta_{-7} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-6} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T (1 - T + T^2) \eta_{-5} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 \eta_{-4} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^2 \eta_{-3} \xi_{-10}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + T^2 \times \xi_{-9} - \frac{(-1 + T) T^4 (1 - 3 T + T^2) \eta_{-16} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \\
 & \frac{(-1 + T) T^4 (1 - 3 T + T^2) \eta_{-15} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (1 - 3 T + 5 T^2 - 3 T^3 + T^4) \eta_{-14} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^2 (1 - 3 T + 5 T^2 - 3 T^3 + T^4) \eta_{-13} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (-1 + 3 T - 5 T^2 + 7 T^3 - 4 T^4 + T^5) \eta_{-12} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^2 (-1 + 3 T - 5 T^2 + 7 T^3 - 4 T^4 + T^5) \eta_{-11} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 3 T - 4 T^2 + 3 T^3) \eta_{-10} \xi_{-9}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} +
 \end{aligned}$$

$$\begin{aligned}
 & \frac{(-1 + T)^2 (-1 + 4T - 7T^2 + 8T^3 - 3T^4 + T^5) \eta_{-9} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^3 (1 + T^2) \eta_{-8} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^3 (1 + T^2) \eta_{-7} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 (1 + T^2) \eta_{-6} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^2 (1 + T^2) \eta_{-5} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-4} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-3} \xi_{-9}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + T \times \xi_{-8} - \frac{(-1 + T) T^3 (1 - 3T + T^2) \eta_{-16} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} - \\
 & \frac{(-1 + T) T^3 (1 - 3T + T^2) \eta_{-15} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-14} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-13} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 3T - 5T^2 + 7T^3 - 4T^4 + T^5) \eta_{-12} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T (-1 + 3T - 5T^2 + 7T^3 - 4T^4 + T^5) \eta_{-11} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 3T - 4T^2 + 3T^3) \eta_{-10} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) (-1 + 3T - 4T^2 + 3T^3) \eta_{-9} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T^2 (1 + T^2) \eta_{-8} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 (1 + T^2) \eta_{-7} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 T (1 + T^2) \eta_{-6} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 + T^2) \eta_{-5} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-4} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 (1 - 3T + 5T^2 - 3T^3 + T^4) \eta_{-3} \xi_{-8}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \times \xi_{-7} + \frac{(-1 + T) (-1 + 4T - 7T^2 + 8T^3 - 4T^4 + T^5) \eta_{-16} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 4T - 7T^2 + 8T^3 - 4T^4 + T^5) \eta_{-15} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T (1 - T + T^2)^2 \eta_{-14} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T (1 - T + T^2)^2 \eta_{-13} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) (-1 + 4T - 8T^2 + 10T^3 - 6T^4 + 2T^5) \eta_{-12} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 4T - 8T^2 + 10T^3 - 6T^4 + 2T^5) \eta_{-11} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 3T - 5T^2 + 6T^3 - 3T^4 + T^5) \eta_{-10} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} +
 \end{aligned}$$

$$\begin{aligned}
& \frac{(-1 + T) (-1 + 3T - 5T^2 + 6T^3 - 3T^4 + T^5) \eta_{-9} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) (-1 + 3T - 5T^2 + 5T^3 - 2T^4 + T^5) \eta_{-8} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - 2T + 4T^2 - 2T^3 + T^4) \eta_{-7} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 (1 - 2T + 4T^2 - 2T^3 + T^4) \eta_{-6} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 (1 - 2T + 4T^2 - 2T^3 + T^4) \eta_{-5} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 (1 - T + T^2)^2 \eta_{-4} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 (1 - T + T^2)^2 \eta_{-3} \xi_{-7}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& T x \xi_{-6} + \frac{(-1 + T) T (-1 + 4T - 7T^2 + 8T^3 - 4T^4 + T^5) \eta_{-16} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 4T - 7T^2 + 8T^3 - 4T^4 + T^5) \eta_{-15} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (1 - T + T^2)^2 \eta_{-14} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 (1 - T + T^2)^2 \eta_{-13} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 4T - 8T^2 + 10T^3 - 6T^4 + 2T^5) \eta_{-12} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 4T - 8T^2 + 10T^3 - 6T^4 + 2T^5) \eta_{-11} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 3T - 5T^2 + 6T^3 - 3T^4 + T^5) \eta_{-10} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 3T - 5T^2 + 6T^3 - 3T^4 + T^5) \eta_{-9} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 3T - 5T^2 + 5T^3 - 2T^4 + T^5) \eta_{-8} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 3T - 5T^2 + 5T^3 - 2T^4 + T^5) \eta_{-7} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - 2T + 4T^2 - 2T^3 + T^4) \eta_{-6} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T (1 - 2T + 4T^2 - 2T^3 + T^4) \eta_{-5} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (1 - T + T^2)^2 \eta_{-4} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T (1 - T + T^2)^2 \eta_{-3} \xi_{-6}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + T^2 x \xi_{-5} + \frac{(-1 + T) T^3 (-1 + 2T) \eta_{-16} \xi_{-5}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^3 (-1 + 2T) \eta_{-15} \xi_{-5}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 (-1 + 3T - 2T^2 + T^3) \eta_{-14} \xi_{-5}}{(1 - 4T + 8T^2 - 11T^3 + 8T^4 - 4T^5 + T^6) \hbar} +
\end{aligned}$$

$$\begin{aligned}
& \frac{(-1 + T) T^3 (-1 + 3 T - 2 T^2 + T^3) \eta_{-13} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (-1 + 3 T - 4 T^2 + 5 T^3 - 3 T^4 + T^5) \eta_{-12} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 (-1 + 3 T - 4 T^2 + 5 T^3 - 3 T^4 + T^5) \eta_{-11} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 4 T - 7 T^2 + 7 T^3 - 3 T^4 + T^5) \eta_{-10} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 4 T - 7 T^2 + 7 T^3 - 3 T^4 + T^5) \eta_{-9} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 (-1 + 2 T - T^2 + T^3) \eta_{-8} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^3 (-1 + 2 T - T^2 + T^3) \eta_{-7} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (-1 + 2 T - T^2 + T^3) \eta_{-6} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 (-1 + 3 T - 4 T^2 + 5 T^3 - 2 T^4 + T^5) \eta_{-5} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T^2 (-1 + 3 T - 2 T^2 + T^3) \eta_{-4} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T^2 (-1 + 3 T - 2 T^2 + T^3) \eta_{-3} \xi_{-5}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + T \times \xi_{-4} + \frac{(-1 + T) T^2 (-1 + 2 T) \eta_{-16} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 (-1 + 2 T) \eta_{-15} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (-1 + 3 T - 2 T^2 + T^3) \eta_{-14} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 (-1 + 3 T - 2 T^2 + T^3) \eta_{-13} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 3 T - 4 T^2 + 5 T^3 - 3 T^4 + T^5) \eta_{-12} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 3 T - 4 T^2 + 5 T^3 - 3 T^4 + T^5) \eta_{-11} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) (-1 + 4 T - 7 T^2 + 7 T^3 - 3 T^4 + T^5) \eta_{-10} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) (-1 + 4 T - 7 T^2 + 7 T^3 - 3 T^4 + T^5) \eta_{-9} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (-1 + 2 T - T^2 + T^3) \eta_{-8} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T^2 (-1 + 2 T - T^2 + T^3) \eta_{-7} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 2 T - T^2 + T^3) \eta_{-6} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T) T (-1 + 2 T - T^2 + T^3) \eta_{-5} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T)^2 T (-1 + 3 T - 2 T^2 + T^3) \eta_{-4} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
& \frac{(-1 + T)^2 T (-1 + 3 T - 2 T^2 + T^3) \eta_{-3} \xi_{-4}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + T^2 \times \xi_{-3} - \frac{(-1 + T) T^2 (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-16} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \\
& \frac{(-1 + T) T^2 (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-15} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T (-1 + 3 T - 5 T^2 + 6 T^3 - 3 T^4 + T^5) \eta_{-14} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} +
\end{aligned}$$

$$\begin{aligned}
 & \frac{(-1 + T) T (-1 + 3 T - 5 T^2 + 6 T^3 - 3 T^4 + T^5) \eta_{-13} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^2 (-1 + 4 T - 7 T^2 + 8 T^3 - 4 T^4 + T^5) \eta_{-12} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^2 (-1 + 4 T - 7 T^2 + 8 T^3 - 4 T^4 + T^5) \eta_{-11} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^5 \eta_{-10} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^5 \eta_{-9} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^4 (1 - T + T^2) \eta_{-8} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^4 (1 - T + T^2) \eta_{-7} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 (1 - T + T^2) \eta_{-6} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^3 (1 - T + T^2) \eta_{-5} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^4 \eta_{-4} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T)^2 (-1 + 3 T - 5 T^2 + 6 T^3 - 3 T^4 + T^5) \eta_{-3} \xi_{-3}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + T x \xi_{-2} - \\
 & \frac{(-1 + T) T (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-16} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} - \frac{(-1 + T) T (1 - 3 T + 4 T^2 - 4 T^3 + T^4) \eta_{-15} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 3 T - 5 T^2 + 6 T^3 - 3 T^4 + T^5) \eta_{-14} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) (-1 + 3 T - 5 T^2 + 6 T^3 - 3 T^4 + T^5) \eta_{-13} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T (-1 + 4 T - 7 T^2 + 8 T^3 - 4 T^4 + T^5) \eta_{-12} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T (-1 + 4 T - 7 T^2 + 8 T^3 - 4 T^4 + T^5) \eta_{-11} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^4 \eta_{-10} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^4 \eta_{-9} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 (1 - T + T^2) \eta_{-8} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^3 (1 - T + T^2) \eta_{-7} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^2 (1 - T + T^2) \eta_{-6} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^2 (1 - T + T^2) \eta_{-5} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \frac{(-1 + T) T^3 \eta_{-4} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + \\
 & \frac{(-1 + T) T^3 \eta_{-3} \xi_{-2}}{(1 - 4 T + 8 T^2 - 11 T^3 + 8 T^4 - 4 T^5 + T^6) \hbar} + x \xi_{-1} - \frac{(-1 + T) \eta_{-16} \xi_{-1}}{\hbar} - \frac{(-1 + T) \eta_{-15} \xi_{-1}}{\hbar} -
 \end{aligned}$$

$$\left. \begin{aligned}
 & \frac{(-1 + \mathbb{T}) \eta_{-14} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-13} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-12} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-11} \xi_{-1}}{\hbar} - \\
 & \frac{(-1 + \mathbb{T}) \eta_{-10} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-9} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-8} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-7} \xi_{-1}}{\hbar} - \\
 & \frac{(-1 + \mathbb{T}) \eta_{-6} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-5} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-4} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-3} \xi_{-1}}{\hbar} - \frac{(-1 + \mathbb{T}) \eta_{-2} \xi_{-1}}{\hbar} \Big]
 \end{aligned} \right.$$