

```
(Alt) In[ ]:=
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```
<< KnotTheory`
```

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

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Read more at http://katlas.org/wiki/KnotTheory.
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```
(Alt) In[ ]:=
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PD[GST48] = PD[X[1, 15, 2, 14], X[29, 2, 30, 3], X[40, 4, 41, 3],
  X[4, 44, 5, 43], X[5, 26, 6, 27], X[95, 7, 96, 6], X[7, 1, 8, 96], X[8, 14, 9, 13],
  X[28, 9, 29, 10], X[41, 11, 42, 10], X[11, 43, 12, 42], X[12, 27, 13, 28],
  X[15, 31, 16, 30], X[61, 16, 62, 17], X[72, 17, 73, 18], X[83, 18, 84, 19],
  X[34, 20, 35, 19], X[20, 89, 21, 90], X[92, 21, 93, 22], X[22, 79, 23, 80],
  X[23, 68, 24, 69], X[24, 57, 25, 58], X[56, 25, 57, 26], X[31, 63, 32, 62],
  X[32, 74, 33, 73], X[33, 85, 34, 84], X[35, 50, 36, 51], X[81, 37, 82, 36],
  X[70, 38, 71, 37], X[59, 39, 60, 38], X[54, 39, 55, 40], X[55, 45, 56, 44],
  X[45, 59, 46, 58], X[46, 70, 47, 69], X[47, 81, 48, 80], X[91, 49, 92, 48],
  X[49, 91, 50, 90], X[82, 52, 83, 51], X[71, 53, 72, 52], X[60, 54, 61, 53],
  X[74, 63, 75, 64], X[85, 64, 86, 65], X[65, 76, 66, 77], X[66, 87, 67, 88],
  X[94, 67, 95, 68], X[86, 75, 87, 76], X[77, 88, 78, 89], X[93, 78, 94, 79]]];
```

```
(Alt) In[ ]:=
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```
Jones[GST48][q] // Timing
```

```
(Alt) Out[ ]:=
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$$\left\{ 7.46875, 5 - \frac{1}{q^7} + \frac{1}{q^6} - \frac{1}{q^3} + \frac{3}{q^2} - \frac{3}{q} - 5q + 5q^2 - 3q^3 - \right.$$

$$\left. q^4 + 3q^5 - 4q^6 + 2q^7 - q^8 + q^9 - q^{10} + q^{11} - q^{12} + 3q^{13} - 4q^{14} + 3q^{15} - q^{16} \right\}$$

```
(Alt) In[ ]:=
```

```
HOMFLYPT[GST48][a, z] // Timing
```

```
 KnotTheory: The HOMFLYPT program was written by Scott Morrison.
```