

```
In[ ]:= << KnotTheory`
```

Loading KnotTheory` version of October 29, 2024, 10:29:52.1301.

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

```
In[ ]:= 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]];
```

```
In[ ]:= Alexander[GST48][T]
```

```
Out[ ]:=
```

$$13 - \frac{1}{T^8} + \frac{2}{T^7} - \frac{1}{T^6} - \frac{2}{T^4} + \frac{5}{T^3} - \frac{2}{T^2} - \frac{7}{T} - 7T - 2T^2 + 5T^3 - 2T^4 - T^6 + 2T^7 - T^8$$

```
In[ ]:= Alexander[GST48][T] // InputForm
```

```
Out[ ]//InputForm=
```

$$13 - T^{(-8)} + 2/T^7 - T^{(-6)} - 2/T^4 + 5/T^3 - 2/T^2 - 7/T - 7*T - 2*T^2 + 5*T^3 - 2*T^4 - T^6 + 2*T^7 - T^8$$

Satisfies Fox-Milnor:

```
In[ ]:= Alexander[GST48][T] // Factor
```

```
Out[ ]:=
```

$$- \frac{(-1 + 2T - T^2 - T^3 + 2T^4 - T^5 + T^8) (-1 + T^3 - 2T^4 + T^5 + T^6 - 2T^7 + T^8)}{T^8}$$