

<< KnotTheory`

Loading KnotTheory` version of April 20, 2009, 14:18:34.482.

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

```
Import["http://katlas.org/wiki/SubLink.m&action=raw"];
```

```
L = Link["L11a391"]
```

```
Link[11, Alternating, 391]
```

```
mva = MultivariableAlexander[L][t]
```

KnotTheory::loading: Loading precomputed data in MultivariableAlexander4Links`.

$$\begin{aligned} & (-t[1] - t[2] + t[1] t[2] - 2 t[3] + 3 t[1] t[3] + 3 t[2] t[3] - \\ & 2 t[1] t[2] t[3] + 2 t[3]^2 - 3 t[1] t[3]^2 - 3 t[2] t[3]^2 + 2 t[1] t[2] t[3]^2 - 2 t[3]^3 + \\ & 3 t[1] t[3]^3 + 3 t[2] t[3]^3 - 2 t[1] t[2] t[3]^3 + 2 t[3]^4 - 3 t[1] t[3]^4 - 3 t[2] t[3]^4 + \\ & 2 t[1] t[2] t[3]^4 - t[3]^5 + t[1] t[3]^5 + t[2] t[3]^5) / \left(\sqrt{t[1]} \sqrt{t[2]} t[3]^{5/2} \right) \end{aligned}$$

```
mva /. t[_] -> 1
```

```
0
```

```
Table[ {
  sub = SubLink[L, k],
  Alexander[sub][t],
  Simplify[mva / \left( \frac{1 - t[k]}{\sqrt{t[k]}} \right) /. t[i_] -> 1 /; i \neq k]
}, {k, 3}
]
```

KnotTheory::loading: Loading precomputed data in PD4Links`.

KnotTheory::loading: Loading precomputed data in PD4Knots`.

$$\begin{aligned} & \left\{ \{ \text{PD}[\text{Loop}[1]], 1, -1 \}, \{ \text{PD}[\text{Loop}[1]], 1, -1 \}, \right. \\ & \left. \{ \text{PD}[\text{X}[6, 1, 7, 2], \text{X}[10, 5, 1, 6], \text{X}[8, 3, 9, 4], \text{X}[2, 7, 3, 8], \text{X}[4, 9, 5, 10]] \}, \right. \\ & \left. 1 + \frac{1}{t^2} - \frac{1}{t} - t + t^2, -1 - \frac{1}{t[3]^2} + \frac{1}{t[3]} + t[3] - t[3]^2 \right\} \end{aligned}$$

```
Alexander[Knot[5, 1]][t]
```

$$1 + \frac{1}{t^2} - \frac{1}{t} - t + t^2$$

```
Alexander[Knot[5, 1]][1]
```

```
1
```