Pensieve header: J(BCH).

```
SetDirectory["C:\\drorbn\\AcademicPensieve\\2012-09"];
<< FreeLie.m
```

```
{u = LW["u"], v = LW["v"]}
```

$\{\langle u \rangle, \langle v \rangle\}$

```
bch = BCH[u, v]
```

$\text{LS}\left[\langle u \rangle + \langle v \rangle, \ \frac{\langle uv \rangle}{2}, \ \frac{\langle uuv \rangle}{12} + \frac{\langle uvv \rangle}{12} \right]$

```
J[u, bch][{8}]
```

$\text{CWS}[\text{CW}[u], 0, 0, 0, 0, 0, 0, 0]$

J[v, bch][{8}]

$$\text{CWS}\Big[\text{CW}[v], \text{CW}[uv], \frac{\text{CW}[uuv]}{2} - \frac{\text{CW}[uvv]}{2}, \frac{\text{CW}[uuuv]}{6} + \frac{7\,\text{CW}[uuvv]}{4} - \frac{5\,\text{CW}[uvuv]}{2} + \frac{\text{CW}[uvvv]}{6},$$

$$\frac{\text{CW}[uuuuv]}{24} + \frac{11\,\text{CW}[uuuvv]}{12} - \frac{3\,\text{CW}[uuvuv]}{2} - \frac{11\,\text{CW}[uuvvv]}{12} + \frac{3\,\text{CW}[uvuvv]}{2} - \frac{\text{CW}[uvvvv]}{24},$$

$$\frac{\text{CW}[uuuuuv]}{120} + \frac{31\,\text{CW}[uuuuvv]}{48} - \frac{11\,\text{CW}[uuuvuv]}{6} + \frac{109\,\text{CW}[uuuvvv]}{36} +$$
$$\frac{7\,\text{CW}[uuvuuv]}{8} - \frac{23\,\text{CW}[uuvuvv]}{4} - \frac{23\,\text{CW}[uuvvuv]}{4} + \frac{31\,\text{CW}[uuvvvv]}{48} +$$
$$\frac{28\,\text{CW}[uvuvuv]}{3} - \frac{11\,\text{CW}[uvuvvv]}{6} + \frac{7\,\text{CW}[uvvuvv]}{8} + \frac{\text{CW}[uvvvvv]}{120},$$

$$\frac{\text{CW}[uuuuuuv]}{720} + \frac{59\,\text{CW}[uuuuuvv]}{240} - \frac{5\,\text{CW}[uuuuvuv]}{8} + \frac{205\,\text{CW}[uuuuvvv]}{144} + \frac{\text{CW}[uuuvuuv]}{4} -$$
$$\frac{5\,\text{CW}[uuuvuvv]}{4} - \frac{9\,\text{CW}[uuuvvuv]}{4} - \frac{205\,\text{CW}[uuuvvvv]}{144} - \frac{25\,\text{CW}[uuvuuvv]}{8} +$$
$$6\,\text{CW}[uuvuvuv] + \frac{9\,\text{CW}[uuvuvvv]}{4} + \frac{25\,\text{CW}[uuvvuvv]}{8} + \frac{5\,\text{CW}[uuvvvuv]}{4} -$$
$$\frac{59\,\text{CW}[uuvvvvv]}{240} - 6\,\text{CW}[uvuvuvv] + \frac{5\,\text{CW}[uvuvvvv]}{8} - \frac{\text{CW}[uvvuvvv]}{4} - \frac{\text{CW}[uvvvvvv]}{720},$$

$$\frac{\text{CW}[uuuuuuuv]}{5040} + \frac{127\,\text{CW}[uuuuuuvv]}{1440} - \frac{7\,\text{CW}[uuuuuvuv]}{24} + \frac{1261\,\text{CW}[uuuuuvvv]}{720} +$$
$$\frac{19\,\text{CW}[uuuuvuuv]}{48} - \frac{203\,\text{CW}[uuuuvuvv]}{48} - \frac{179\,\text{CW}[uuuuvvuv]}{48} +$$
$$\frac{3079\,\text{CW}[uuuuvvvv]}{576} - \frac{17\,\text{CW}[uuuvuuuv]}{72} + \frac{43\,\text{CW}[uuuvuuvv]}{24} +$$
$$\frac{41\,\text{CW}[uuuvuvuv]}{3} - \frac{377\,\text{CW}[uuuvuvvv]}{36} - \frac{17\,\text{CW}[uuuvvuuv]}{24} - \frac{107\,\text{CW}[uuuvvuvv]}{24} -$$
$$\frac{377\,\text{CW}[uuuvvvuv]}{36} + \frac{1261\,\text{CW}[uuuvvvvv]}{720} - 8\,\text{CW}[uuvuuvuv] - \frac{107\,\text{CW}[uuvuuvvv]}{24} +$$
$$26\,\text{CW}[uuvuvuvv] + 20\,\text{CW}[uuvuvvuv] - \frac{179\,\text{CW}[uuvuvvvv]}{48} - \frac{237\,\text{CW}[uuvvuuvv]}{32} +$$
$$26\,\text{CW}[uuvvuvuv] - \frac{17\,\text{CW}[uuvvuvvv]}{24} + \frac{43\,\text{CW}[uuvvvuvv]}{24} - \frac{203\,\text{CW}[uuvvvvuv]}{48} +$$
$$\frac{127\,\text{CW}[uuvvvvvv]}{1440} - \frac{165\,\text{CW}[uvuvuvuv]}{4} + \frac{41\,\text{CW}[uvuvuvvv]}{3} - 8\,\text{CW}[uvuvvuvv] -$$
$$\frac{7\,\text{CW}[uvuvvvvv]}{24} + \frac{19\,\text{CW}[uvvuvvvv]}{48} - \frac{17\,\text{CW}[uvvvuvvv]}{72} + \frac{\text{CW}[uvvvvvvv]}{5040}\Big]$$