

Pensieve header: Testing OneCo.

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SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\OneCo-1606\\V1"];
<< OneCo.m

Table[x → b[x, a1,2], {x, {c1, c2, u1, u2, w1, w2, c3, u3, w3}}] // Column
c1 → u1 w2
c2 → -u1 w2
u1 → ε c2 u1
u2 → b2 u1 - 2 ε c2 u1 - b1 u2 + ε c1 u2
w1 → -ε c2 w1 - b1 w2 + 2 ε c1 w2
w2 → b1 w2 - ε c1 w2
c3 → 0
u3 → 0
w3 → 0

b[a1,3, a2,3] + b[a1,2, a2,3] + b[a1,2, a1,3]
0

{b[a1,2, a1,3], ε c3 ** a1,2 - ε c2 a1,3} // Expand
{ε c3 u1 w2 - ε c2 u1 w3, ε c3 u1 w2 - ε c2 u1 w3}

{t1 = b[a1,3, a2,3], t2 = (b2 - ε c2) ** a1,3 - (b1 - ε c1) ** a2,3, t1 - t2} // Expand
{b2 u1 w3 - ε c2 u1 w3 - b1 u2 w3 + ε c1 u2 w3, b2 u1 w3 - ε c2 u1 w3 - b1 u2 w3 + ε c1 u2 w3, 0}

{t1 = a1,3 ** a2,4 - a1,4 ** a2,3,
  t2 = a1,3 ** (b2 - ε c2) ** c4 -
  a2,3 ** (b1 - ε c1) ** c4 - a1,4 ** (b2 - ε c2) ** c3 + a2,4 ** (b1 - ε c1) ** c3,
  t1 - t2
} // Column
b2 c4 u1 w3 - ε c2 c4 u1 w3 - b1 c4 u2 w3 +
  ε c1 c4 u2 w3 - b2 c3 u1 w4 + ε c2 c3 u1 w4 + b1 c3 u2 w4 - ε c1 c3 u2 w4
b2 c4 u1 w3 - ε c2 c4 u1 w3 - b1 c4 u2 w3 +
  ε c1 c4 u2 w3 - b2 c3 u1 w4 + ε c2 c3 u1 w4 + b1 c3 u2 w4 - ε c1 c3 u2 w4
0

LBasis[2]
{1, ε, c1, c2, u1, u2, w1, w2, ε c1, ε c2, ε u1, ε u2, ε w1, u1 w1, u2 w1, ε w2, u1 w2,
  u2 w2, ε c12, ε c1 c2, ε c22, ε c1 u1, ε c2 u1, ε c1 u2, ε c2 u2, ε c1 w1, ε c2 w1, ε u1 w1,
  ε u2 w1, ε c1 w2, ε c2 w2, ε u1 w2, ε u2 w2, ε c1 u1 w1, ε c2 u1 w1, ε u12 w1, ε c1 u2 w1,
  ε c2 u2 w1, ε u1 u2 w1, ε u22 w1, ε u1 w12, ε u2 w12, ε c1 u1 w2, ε c2 u1 w2, ε u12 w2,
  ε c1 u2 w2, ε c2 u2 w2, ε u1 u2 w2, ε u22 w2, ε u1 w1 w2, ε u2 w1 w2, ε u1 w22, ε u2 w22, ε u12 w12,
  ε u1 u2 w12, ε u22 w12, ε u12 w1 w2, ε u1 u2 w1 w2, ε u22 w1 w2, ε u12 w22, ε u1 u2 w22, ε u22 w22}

bas = LBasis[2]; Table[b[x, y] + b[y, x], {x, bas}, {y, bas}] // Flatten // Union
{0}

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bas = LBasis[2];
Table[b[b[x, y], z] + b[b[y, z], x] + b[b[z, x], y], {x, bas}, {y, bas}, {y, bas}] //
  Flatten // Union

{0}

bas = Flatten@Table[yk, {y, {c, u, w}}, {k, 3}];
Table[{x, y} → Expand[R0[τ, 1, 2][b[x, y]] - b[R0[τ, 1, 2][x], R0[τ, 1, 2][y]]],
  {x, bas}, {y, bas}]

{{{c1, c1} → 0, {c1, c2} → 0, {c1, c3} → 0, {c1, u1} → 0,
  {c1, u2} → 0, {c1, u3} → 0, {c1, w1} → 0, {c1, w2} → 0, {c1, w3} → 0},
 {{c2, c1} → 0, {c2, c2} → 0, {c2, c3} → 0, {c2, u1} → 0, {c2, u2} → 0, {c2, u3} → 0,
  {c2, w1} → 0, {c2, w2} → 0, {c2, w3} → 0}, {{c3, c1} → 0, {c3, c2} → 0, {c3, c3} → 0,
  {c3, u1} → 0, {c3, u2} → 0, {c3, u3} → 0, {c3, w1} → 0, {c3, w2} → 0, {c3, w3} → 0},
 {{u1, c1} → 0, {u1, c2} → 0, {u1, c3} → 0, {u1, u1} → 0, {u1, u2} → 0,
  {u1, u3} → 0, {u1, w1} → 0, {u1, w2} → 0, {u1, w3} → 0},
 {{u2, c1} → 0, {u2, c2} → 0, {u2, c3} → 0, {u2, u1} → 0, {u2, u2} → 0,
  {u2, u3} → 0, {u2, w1} → 0, {u2, w2} → 0, {u2, w3} → 0},
 {{u3, c1} → 0, {u3, c2} → 0, {u3, c3} → 0, {u3, u1} → 0, {u3, u2} → 0, {u3, u3} → 0,
  {u3, w1} → 0, {u3, w2} → 0, {u3, w3} → 0}, {{w1, c1} → 0, {w1, c2} → 0, {w1, c3} → 0,
  {w1, u1} → 0, {w1, u2} → 0, {w1, u3} → 0, {w1, w1} → 0, {w1, w2} → 0, {w1, w3} → 0},
 {{w2, c1} → 0, {w2, c2} → 0, {w2, c3} → 0, {w2, u1} → 0, {w2, u2} → 0, {w2, u3} → 0,
  {w2, w1} → 0, {w2, w2} → 0, {w2, w3} → 0}, {{w3, c1} → 0, {w3, c2} → 0, {w3, c3} → 0,
  {w3, u1} → 0, {w3, u2} → 0, {w3, u3} → 0, {w3, w1} → 0, {w3, w2} → 0, {w3, w3} → 0}}

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