```
ppvxx = {((1 - x12/2)*x18*x30*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
      (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
 (x12*(1 - x18/2)*x4*(1 - x24 - x42)*(4 - x1 - x2 - x5 +
      2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
  (6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*(1 - (1 - e4)*(1 - x1 - x2)*
      (1 - x3 - x4)*(1 - x5 - x6))) +
 ((1 - x11/2)*x17*x2*x35*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
      (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
 (x11*(1 - x17/2)*x2*x41*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
      (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
 ((1 - x10/2)*x16*x28*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*
      (1 - x3 - x4) - x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
 (x10*(1 - x16/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
      x4)*(1 - x22 - x40)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
 (x13*x3*(1 - x25 - x31)*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
      (1 - x5 - x6) - x6)*(1 - x7/2))/
  (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x13)*(1 - x7))) +
 ((1 - x13/2)*x19*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) -
      x6)*x7)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x13)*(1 - x7))) +
 (x14*(1 - x26 - x32)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*
      (1 - x3 - x4) - x4)*x5*(1 - x8/2))/
  (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x14)*(1 - x8))) +
 ((1 - x14/2)*x20*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
      x4)*x5*x8)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
      (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) -
 (b2*(-((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5)/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
     (x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
     (x11*(1 - x17/2)*x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
          (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
        (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
     ((1 - x11/2)*x17*x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
          (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
        (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
     (x14*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5*
        (1 - x8/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) +
     ((1 - x14/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
        x5*x8)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
        (1 - (1 - e5)*(1 - x14)*(1 - x8)))))/2 +
 (x1*x15*x33*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
    (1 - x9/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
```

```
       (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9))) +
  (x1*(1 - x15/2)*x39*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) -
     x6)*x9)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x15)*(1 - x9))) -
  (b3*(-(x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
      (x1*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
      (x13*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
        (1 - x7/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
      ((1 - x13/2)*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) -
          x6)*x7)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
      (x1*x15*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
        (1 - x9/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9))) +
      (x1*(1 - x15/2)*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) -
          x6)*x9)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9)))))/2,
  ((1 - x12/2)*x18*x36*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
       (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
     (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
   (x12*(1 - x18/2)*x4*x42*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
       (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
     (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
   ((1 - x11/2)*x17*x2*x29*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
       (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
     (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
   (x11*(1 - x17/2)*x2*(1 - x23 - x41)*(4 - x3 - x4 - x5 +
       2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
    (6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*(1 - (1 - e4)*(1 - x1 - x2)*
       (1 - x3 - x4)*(1 - x5 - x6))) +
   (x10*(1 - x16/2)*x22*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*
       (1 - x3 - x4) - x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
     (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
   ((1 - x10/2)*x16*(1 - x28 - x34)*(4 - x1 - x2 - x3 +
       2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x6)/
    (6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*(1 - (1 - e4)*(1 - x1 - x2)*
       (1 - x3 - x4)*(1 - x5 - x6))) -
   (b1*(-(x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
      (x12*(1 - x18/2)*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
          (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
        (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
      ((1 - x12/2)*x18*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
          (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
        (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
      ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x6)/
       (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
      (x10*(1 - x16/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
          x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
```

```
      (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
    ((1 - x10/2)*x16*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
      x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
      (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))))/2 +
  (x13*x3*x31*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
     (1 - x7/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
     (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
  ((1 - x13/2)*x3*x37*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) -
     x6)*x7)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
     (1 - (1 - e5)*(1 - x13)*(1 - x7))) +
  (x14*x26*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5*
     (1 - x8/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
     (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) +
  ((1 - x14/2)*(1 - x20 - x38)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*
     (1 - x3 - x4) - x4)*x5*x8)/(6*(1 - (1 - e4)*(1 - x1 - x2)*
     (1 - x3 - x4)*(1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) +
  (x1*x15*(1 - x27 - x33)*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
     (1 - x5 - x6) - x6)*(1 - x9/2))/
   (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x15)*(1 - x9))) +
  (x1*(1 - x15/2)*x21*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) -
     x6)*x9)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
     (1 - (1 - e5)*(1 - x15)*(1 - x9))) -
  (b3*(-(x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
      (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
     (x1*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
      (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
     (x13*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
       (1 - x7/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
       (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
     ((1 - x13/2)*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) -
        x6)*x7)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
        (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
     (x1*x15*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
       (1 - x9/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
       (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9))) +
     (x1*(1 - x15/2)*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) -
        x6)*x9)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
        (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9)))))/2,
  (x12*(1 - x18/2)*x24*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
      (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
  ((1 - x12/2)*x18*(1 - x30 - x36)*x4*(4 - x1 - x2 - x5 +
      2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
   (6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*(1 - (1 - e4)*(1 - x1 - x2)*
      (1 - x3 - x4)*(1 - x5 - x6))) +
  (x11*(1 - x17/2)*x2*x23*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
      (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
  ((1 - x11/2)*x17*x2*(1 - x29 - x35)*(4 - x3 - x4 - x5 +
      2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
   (6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*(1 - (1 - e4)*(1 - x1 - x2)*
```

```
          (1 - x3 - x4)*(1 - x5 - x6))) +
     ((1 - x10/2)*x16*x34*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*
        (1 - x3 - x4) - x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
       (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
     (x10*(1 - x16/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
        x4)*x40*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
       (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
     (b1*(-(x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6))/
         (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        (x12*(1 - x18/2)*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
            (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        ((1 - x12/2)*x18*x4*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*
            (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x12)*(1 - x18))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
        ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x6)/
         (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        (x10*(1 - x16/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
           x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        ((1 - x10/2)*x16*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
           x4)*x6)/(6*(1 - (1 - e5)*(1 - x10)*(1 - x16))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))))/2 +
     (x13*x25*x3*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
       (1 - x7/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
         (1 - x5 - x6))*(1 - (1 - e5)*(1 - x13)*(1 - x7))) +
     ((1 - x13/2)*x3*(1 - x19 - x37)*(4 - x1 - x2 - x5 +
         2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*x7)/
      (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
        (1 - (1 - e5)*(1 - x13)*(1 - x7))) +
     (x14*x32*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5*
       (1 - x8/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
         (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) +
     ((1 - x14/2)*x38*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) -
        x4)*x5*x8)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
         (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) -
     (b2*(-((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5)/
         (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) -
        (x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6))/
         (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        (x11*(1 - x17/2)*x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
            (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        ((1 - x11/2)*x17*x2*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*
            (1 - x5 - x6) - x6))/(6*(1 - (1 - e5)*(1 - x11)*(1 - x17))*
          (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))) +
        (x14*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*x5*
          (1 - x8/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
            (1 - x5 - x6))*(1 - (1 - e5)*(1 - x14)*(1 - x8))) +
        ((1 - x14/2)*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
          x5*x8)/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
          (1 - (1 - e5)*(1 - x14)*(1 - x8)))))/2 +
```

```
(x1*x15*x27*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
    (1 - x9/2))/(6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
     (1 - x5 - x6))*(1 - (1 - e5)*(1 - x15)*(1 - x9))) +
  (x1*(1 - x15/2)*(1 - x21 - x39)*(4 - x3 - x4 - x5 +
     2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*x9)/
   (6*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (1 - (1 - e5)*(1 - x15)*(1 - x9)))}

 ff0 = {(b2*e5*(-1 + x11)*(-1 + x17) + 2*x17*x35 -
    x11*(x17*x35 + (-2 + x17)*x41))/(e5 + (-1 + e5)*x11*(-1 + x17) +
    x17 - e5*x17) - (b3*e5*(-1 + x15)*(-1 + x9) + 2*x39*x9 -
    x15*(x33*(-2 + x9) + x39*x9))/(1 + (-1 + e5)*(-1 + x15)*(-1 + x9)) +
  2*e3*(Log[x1] - Log[x2]),
 -((b1*e5*(-1 + x12)*(-1 + x18) + 2*x12*x42 -
     x18*((-2 + x12)*x36 + x12*x42))/(1 + (-1 + e5)*(-1 + x12)*
     (-1 + x18))) + (2*x13*x31 + b3*e5*(-1 + x13)*(-1 + x7) -
    (x13*x31 + (-2 + x13)*x37)*x7)/(e5 + x13 - e5*x13 +
    (-1 + e5)*(-1 + x13)*x7) + 2*e3*(-Log[x3] + Log[x4]),
 (b1*e5*(-1 + x10)*(-1 + x16) + 2*x16*x34 -
    x10*(x16*x34 + (-2 + x16)*x40))/(e5 + (-1 + e5)*x10*(-1 + x16) +
    x16 - e5*x16) - (b2*e5*(-1 + x14)*(-1 + x8) + 2*x38*x8 -
    x14*(x32*(-2 + x8) + x38*x8))/(1 + (-1 + e5)*(-1 + x14)*(-1 + x8)) +
  2*e3*(Log[x5] - Log[x6]),
 (x1 + x2)*(1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*(1 - x5 - x6))*
   ((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42)))/
     (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
    (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
       (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
  (x1 + x2)*(1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*
      (1 - x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*
       (1 - x22 - x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
    (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
       (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
  (-1 + (1 - e4)*(1 - x3 - x4)*(1 - x5 - x6))*(4 - x3 - x4 - x5 +
    2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
   ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 +
       x11*(2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
    (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*x9))/
     (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
 (-1 + (1 - e4)*(1 - x1 - x2)*(1 - x5 - x6))*(4 - x1 - x2 - x5 +
    2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
   ((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*x36 +
       x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
    (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) + (2 - x13)*x37*x7))/
     (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
  (x3 + x4)*(1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
      (1 - x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
       (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*
       (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
       x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
  (x3 + x4)*(1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*
     (1 - x5 - x6))*((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*
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         (1 - x23 - x41)))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
      (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
         (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
  (1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 - x3 - x4)))*(x5 + x6)*
    (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
         (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
         (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
         x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
   (-1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4))*(4 - x1 - x2 - x3 +
      2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 + x10*(2 - x16)*x40)*
         x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
      (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*x8))/
       (2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
   (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
    (x5 + x6)*((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
         (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
         (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
         x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
  e3*(-(b3*e5*(1 - x13)) + (2 - x13)*(e5 + (1 - e5)*x13)*x19 +
     x13*(-2 + e5 + (1 - e5)*x13)*(1 - x25 - x31))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) -
   (-(b3*e5*(1 - x13)) + x13*(-2 + e5 + (1 - e5)*x13)*x31 +
     (2 - x13)*(e5 + (1 - e5)*x13)*x37)*
    ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
      ((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42)))/
         (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
       ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
         (b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
         (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
             x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 -
             x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
         (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
             (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
       (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
          ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
             (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
          (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
             x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*(-(b2*e5*(1 - x14)) + (2 - x14)*(e5 + (1 - e5)*x14)*x20 +
     x14*(-2 + e5 + (1 - e5)*x14)*(1 - x26 - x32))*
    (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) -
   (-(b2*e5*(1 - x14)) + x14*(-2 + e5 + (1 - e5)*x14)*x32 +
     (2 - x14)*(e5 + (1 - e5)*x14)*x38)*
    ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
      ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*x6)/
         (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
         (b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
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                (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
       (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
             x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
             (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
          (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
             (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
             (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
          (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
             x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))))),
  e3*(-(b3*e5*(1 - x15)) + (2 - x15)*(e5 + (1 - e5)*x15)*x21 +
     x15*(-2 + e5 + (1 - e5)*x15)*(1 - x27 - x33))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) -
   (-(b3*e5*(1 - x15)) + x15*(-2 + e5 + (1 - e5)*x15)*x33 +
     (2 - x15)*(e5 + (1 - e5)*x15)*x39)*
    ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
          (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
             x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
             x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
             (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 + (2 - x10)*x16*
             (1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
          (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*x8))/
           (2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
     (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
      ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
        (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
       ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
         (b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
          (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
  e3*(-(b1*e5*(1 - x16)) + (2 - x16)*(e5 + (1 - e5)*x16)*x22 +
     x16*(-2 + e5 + (1 - e5)*x16)*(1 - x28 - x34))*
    (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) -
   (-(b1*e5*(1 - x16)) + x16*(-2 + e5 + (1 - e5)*x16)*x34 +
     (2 - x16)*(e5 + (1 - e5)*x16)*x40)*
    ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
      (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
           (2 - x10)*x16*(1 - x28 - x34))*(-1 + (1 - e4)*(1 - x1 - x2)*
           (1 - x3 - x4)*(1 - x5 - x6) + x6))/(2 - 2*(1 - e5)*(1 - x10)*
           (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
           x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
     (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
             x3 - x4)))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
             x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
             x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
             (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
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         (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
         (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
            (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
   e3*(-(b2*e5*(1 - x17)) + (2 - x17)*(e5 + (1 - e5)*x17)*x23 +
      x17*(-2 + e5 + (1 - e5)*x17)*(1 - x29 - x35))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) -
   (-(b2*e5*(1 - x17)) + x17*(-2 + e5 + (1 - e5)*x17)*x35 +
      (2 - x17)*(e5 + (1 - e5)*x17)*x41)*
    ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
            (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*
              x24 + (2 - x12)*x18*(1 - x30 - x36))*x4)/
            (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
          (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*x7))/
           (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
        (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
         (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 + x10*(2 - x16)*
              x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
          (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
              x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
      (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
       (((b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
            (2 - x11)*x17*(1 - x29 - x35))*(-1 + x2 + (1 - e4)*(1 - x1 - x2)*
            (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x11)*
          (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
            x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
   e3*(-(b1*e5*(1 - x18)) + (2 - x18)*(e5 + (1 - e5)*x18)*x24 +
      x18*(-2 + e5 + (1 - e5)*x18)*(1 - x30 - x36))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) -
   (-(b1*e5*(1 - x18)) + x18*(-2 + e5 + (1 - e5)*x18)*x36 +
      (2 - x18)*(e5 + (1 - e5)*x18)*x42)*
    ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
       (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
            (2 - x12)*x18*(1 - x30 - x36))*(-1 + x4 + (1 - e4)*(1 - x1 - x2)*
            (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x12)*
          (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
            x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
              x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
              x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
          (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
              x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
        (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
         ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 + (2 - x11)*
              x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
          (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*x9))/
           (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
   e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    ((1 - x19 - x37)*x7*(-2 + e5 + (1 - e5)*x7) +
     x25*(2 - x7)*(e5 + (1 - e5)*x7)) -
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 (-(b3*e5*(1 - x7)) + x37*x7*(-2 + e5 + (1 - e5)*x7) +
   x31*(2 - x7)*(e5 + (1 - e5)*x7))*
  ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
         (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
        (1 - x18)) + ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
         (1 - x5 - x6))*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
         x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
     (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
           x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
           x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
           x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
       ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 + (2 - x11)*
           x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*x9))/
         (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
  (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
  ((1 - x20 - x38)*x8*(-2 + e5 + (1 - e5)*x8) +
   x26*(2 - x8)*(e5 + (1 - e5)*x8)) -
 (-(b2*e5*(1 - x8)) + x38*x8*(-2 + e5 + (1 - e5)*x8) +
   x32*(2 - x8)*(e5 + (1 - e5)*x8))*
  ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
         (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*
        (1 - x16)) + ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
         (1 - x5 - x6))*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
         x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
     (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
           x3 - x4)))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
           x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
           x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
           (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
       ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
         (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
           (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
  (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
  ((1 - x21 - x39)*x9*(-2 + e5 + (1 - e5)*x9) +
   x27*(2 - x9)*(e5 + (1 - e5)*x9)) -
 (-(b3*e5*(1 - x9)) + x39*x9*(-2 + e5 + (1 - e5)*x9) +
   x33*(2 - x9)*(e5 + (1 - e5)*x9))*
  ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
        (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*
           x24 + (2 - x12)*x18*(1 - x30 - x36))*x4)/
         (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
        (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*x7))/
         (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
```

```
   (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
    (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 + x10*(2 - x16)*
         x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
      (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
         x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
     ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
         (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
         (1 - x17)) + ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
          x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
  e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
   ((2 - x10)*(e5 + (1 - e5)*x10)*x28 + x10*(-2 + e5 + (1 - e5)*x10)*
    (1 - x22 - x40))*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
    (1 - x5 - x6)) - (-(b1*e5*(1 - x10)) + (2 - x10)*(e5 + (1 - e5)*x10)*
   x34 + x10*(-2 + e5 + (1 - e5)*x10)*x40)*
  ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
   ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*
      (-1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6) + x6))/
     (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
     (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
        (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
    (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
         x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
         (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
      (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
         (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
     (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
      ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
          (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
       (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
          x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*((2 - x11)*(e5 + (1 - e5)*x11)*x29 + x11*(-2 + e5 + (1 - e5)*x11)*
    (1 - x23 - x41))*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
    (1 - x5 - x6))*(4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) -
   x6) - (-(b2*e5*(1 - x11)) + (2 - x11)*(e5 + (1 - e5)*x11)*x35 +
   x11*(-2 + e5 + (1 - e5)*x11)*x41)*
  ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
      (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
         x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
         x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
         (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
     (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
      (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 + (2 - x10)*x16*
          (1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*x8))/
         (2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
     ((((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41))*
        (-1 + x2 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/
       (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
      (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
```

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                (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
      e3*((2 - x12)*(e5 + (1 - e5)*x12)*x30 + x12*(-2 + e5 + (1 - e5)*x12)*
          (1 - x24 - x42))*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) -
         x6) - (-(b1*e5*(1 - x12)) + (2 - x12)*(e5 + (1 - e5)*x12)*x36 +
         x12*(-2 + e5 + (1 - e5)*x12)*x42)*
        ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
          ((((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42))*
              (-1 + x4 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/
            (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
           (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
               (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
         (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
                 x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 -
                   x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
             (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
                 (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
           (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
            ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
                 (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
             (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
                 x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
      e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
        (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) +
       (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
        ((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42)))/
          (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
         ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
            (b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
             (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
              (1 - x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*
                (1 - x22 - x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
           (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
               (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
         (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
          ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 +
               x11*(2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
           (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) +
               (2 - x15)*x39*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
      e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
        (e3*(1 - (1 - e5)*(1 - x10)*(1 - x16))*(-2 + x16) +
         (1 - x10)*(x16*(-2 + e5 + (1 - e5)*x16)*x28 +
           (2 - x16)*(e5 + (1 - e5)*x16)*(1 - x22 - x40)))*
        (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) -
       (1 - x10)*(-(b1*e5*(1 - x16)) + x16*(-2 + e5 + (1 - e5)*x16)*x34 +
         (2 - x16)*(e5 + (1 - e5)*x16)*x40)*
        ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
          ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*
              (-1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6) + x6))/
            (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
           (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
```

```
          (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
    (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
            x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
            (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
        (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
            (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
            (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
            x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    (e3*(1 - (1 - e5)*(1 - x13)*(1 - x7))*(-2 + x7) +
    (1 - x13)*(-(b3*e5*(1 - x7)) + x19*x7*(-2 + e5 + (1 - e5)*x7) +
      (1 - x25 - x31)*(2 - x7)*(e5 + (1 - e5)*x7))) -
   (1 - x13)*(-(b3*e5*(1 - x7)) + x37*x7*(-2 + e5 + (1 - e5)*x7) +
    x31*(2 - x7)*(e5 + (1 - e5)*x7))*
   ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    ((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42)))/
      (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
    ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
      (b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
        (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
    (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
            x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 -
          x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
        (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
            (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
            (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
            x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) +
   (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*
      (-1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6) + x6))/
      (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
    (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
        (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
   (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
        (1 - x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
          (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
        (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
            (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 +
            x11*(2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) +
            (2 - x15)*x39*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
```

```
e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
  (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
  (e3*(1 - (1 - e5)*(1 - x14)*(1 - x8))*(-2 + x8) +
   (1 - x14)*(-(b2*e5*(1 - x8)) + x20*x8*(-2 + e5 + (1 - e5)*x8) +
    (1 - x26 - x32)*(2 - x8)*(e5 + (1 - e5)*x8))) -
 (1 - x14)*(-(b2*e5*(1 - x8)) + x38*x8*(-2 + e5 + (1 - e5)*x8) +
   x32*(2 - x8)*(e5 + (1 - e5)*x8))*
  ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
    ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*x6)/
     (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
     ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
       (b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
        (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
    (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
           x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
           (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
        (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
           (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11*
             (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
         (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39*
            x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
 e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
  (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) +
 (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
  ((((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42))*
     (-1 + x4 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/
    (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
    (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) +
       (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
   (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
         (1 - x5 - x6)))*((((2 - x10)*x16*x28 + x10*(2 - x16)*
          (1 - x22 - x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
          (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
       ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 +
           x11*(2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) +
           (2 - x15)*x39*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
 e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
  (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) +
 (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
  ((((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - x40))*x6)/
    (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
    ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
      (b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) +
       (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
   (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
         (1 - x3 - x4)))*((x4*((2 - x12)*x18*x30 + x12*(2 - x18)*
          (1 - x24 - x42)))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
```

$$
\begin{aligned}
&(x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) + \\
&\quad (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) + \\
&(1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))* \\
&\quad ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + \\
&\quad\quad x11*(2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) + \\
&\quad (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + \\
&\quad\quad (2 - x15)*x39*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))), \\
&e3*(e3*(1 - (1 - e5)*(1 - x12)*(1 - x18))*(-2 + x18) + \\
&\quad (1 - x12)*(x18*(-2 + e5 + (1 - e5)*x18)*x30 + \\
&\quad (2 - x18)*(e5 + (1 - e5)*x18)*(1 - x24 - x42)))* \\
&\quad (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))* \\
&\quad (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) - \\
&\quad (1 - x12)*(-(b1*e5*(1 - x18)) + x18*(-2 + e5 + (1 - e5)*x18)*x36 + \\
&\quad (2 - x18)*(e5 + (1 - e5)*x18)*x42)* \\
&\quad ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)* \\
&\quad\quad ((((2 - x12)*x18*x30 + x12*(2 - x18)*(1 - x24 - x42))* \\
&\quad\quad\quad (-1 + x4 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/ \\
&\quad\quad (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) + \\
&\quad\quad (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*(1 - x25 - x31)*(2 - x7) + \\
&\quad\quad\quad (2 - x13)*x19*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) + \\
&\quad (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 - \\
&\quad\quad x5 - x6)))*(((2 - x10)*x16*x28 + x10*(2 - x16)*(1 - x22 - \\
&\quad\quad x40))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) + \\
&\quad\quad (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*(1 - x26 - x32)*(2 - x8) + \\
&\quad\quad\quad (2 - x14)*x20*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) + \\
&\quad\quad (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))* \\
&\quad\quad\quad ((x2*(b2*e5*(1 - x11)*(1 - x17) + (2 - x11)*x17*x35 + x11* \\
&\quad\quad\quad\quad (2 - x17)*x41))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) + \\
&\quad\quad\quad (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*x33*(2 - x9) + (2 - x15)*x39* \\
&\quad\quad\quad\quad x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))), \\
&e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))* \\
&\quad (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) + \\
&\quad (1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))* \\
&\quad\quad (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) + \\
&\quad\quad\quad (2 - x12)*x18*x36 + x12*(2 - x18)*x42))/ \\
&\quad\quad (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) + \\
&\quad\quad (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) + \\
&\quad\quad\quad (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) + \\
&\quad (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))* \\
&\quad\quad (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 + \\
&\quad\quad\quad (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)* \\
&\quad\quad\quad (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)* \\
&\quad\quad\quad x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) + \\
&\quad (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)* \\
&\quad\quad ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/ \\
&\quad\quad (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) + \\
&\quad\quad ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))* \\
&\quad\quad\quad (b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) + \\
&\quad\quad\quad (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))), \\
&e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)* \\
&\quad (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))* \\
&\quad (e3*(-2 + x14)*(1 - (1 - e5)*(1 - x14)*(1 - x8)) +
\end{aligned}
$$

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(x14*(-2 + e5 + (1 - e5)*x14)*x26 + (2 - x14)*(e5 + (1 - e5)*x14)*
     (1 - x20 - x38))*(1 - x8)) -
  (-(b2*e5*(1 - x14)) + x14*(-2 + e5 + (1 - e5)*x14)*x32 +
     (2 - x14)*(e5 + (1 - e5)*x14)*x38)*(1 - x8)*
   ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
      (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
           (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*
          (1 - x16)) + ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
           (1 - x5 - x6))*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
           x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
    (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
           x3 - x4)))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
           x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
           x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
           (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
        ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
          (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
         (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
            (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
 e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
   (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
   (e3*(1 - (1 - e5)*(1 - x15)*(1 - x9))*(-2 + x9) +
    (1 - x15)*(-(b3*e5*(1 - x9)) + x21*x9*(-2 + e5 + (1 - e5)*x9) +
      (1 - x27 - x33)*(2 - x9)*(e5 + (1 - e5)*x9))) -
  (1 - x15)*(-(b3*e5*(1 - x9)) + x39*x9*(-2 + e5 + (1 - e5)*x9) +
     x33*(2 - x9)*(e5 + (1 - e5)*x9))*
   ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
         (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
           x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
           x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
           (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 + (2 - x10)*x16*
            (1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
         (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*x8))/
          (2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
     ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
        (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
      ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
        (b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
         (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
 e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
   (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) +
  (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
   (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
        (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*
       (1 - x16)) + ((-1 + x5 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
        (1 - x5 - x6))*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*x8))/
      (2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) + (1 - x5 - x6)*
   ((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 - x3 - x4)))*
```

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  ((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*x36 +
      x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
   (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
      (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
  (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
   ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
      (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
    (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
      (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
 e3*(e3*(-2 + x10)*(1 - (1 - e5)*(1 - x10)*(1 - x16)) +
    (1 - x16)*(-(b1*e5*(1 - x10)) + x10*(-2 + e5 + (1 - e5)*x10)*x22 +
      (2 - x10)*(e5 + (1 - e5)*x10)*(1 - x28 - x34)))*
   (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
   (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) -
  (1 - x16)*(-(b1*e5*(1 - x10)) + (2 - x10)*(e5 + (1 - e5)*x10)*x34 +
    x10*(-2 + e5 + (1 - e5)*x10)*x40)*
   ((4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
     (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
        (2 - x10)*x16*(1 - x28 - x34))*(-1 + (1 - e4)*(1 - x1 - x2)*
        (1 - x3 - x4)*(1 - x5 - x6) + x6))/(2 - 2*(1 - e5)*(1 - x10)*
        (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
        x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
    (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
        x3 - x4)))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
        x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
        x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
        (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
       ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
          (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
          (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
 e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
   (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) +
  (1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
       (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) +
        (2 - x12)*x18*x36 + x12*(2 - x18)*x42))/
        (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
      (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
        (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
    (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
     (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
        (2 - x10)*x16*(1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*
        (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
        x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
  (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
   ((((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41))*
      (-1 + x2 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/
      (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
    (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
      (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
 e3*(4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
```

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 (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)) +
 (4 - x1 - x2 - x3 + 2*(1 - x1 - x2)*(1 - x3 - x4) - x4)*
  (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 +
      (2 - x10)*x16*(1 - x28 - x34))*(-1 + (1 - e4)*(1 - x1 - x2)*
       (1 - x3 - x4)*(1 - x5 - x6) + x6))/(2 - 2*(1 - e5)*(1 - x10)*
      (1 - x16)) + (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*
       x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
 (1 - x5 - x6)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
        (1 - x3 - x4)))*((x4*(b1*e5*(1 - x12)*(1 - x18) +
         (2 - x12)*x18*x36 + x12*(2 - x18)*x42))/
        (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
       (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
          (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
     (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x3 - x4))*(1 - x3 - x4))*
      ((x2*((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41)))/
        (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
       (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
          (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
 e3*(e3*(1 - (1 - e5)*(1 - x11)*(1 - x17))*(-2 + x17) +
    (1 - x11)*(x17*(-2 + e5 + (1 - e5)*x17)*x29 +
      (2 - x17)*(e5 + (1 - e5)*x17)*(1 - x23 - x41)))*
   (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
   (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) -
  (1 - x11)*(-(b2*e5*(1 - x17)) + x17*(-2 + e5 + (1 - e5)*x17)*x35 +
     (2 - x17)*(e5 + (1 - e5)*x17)*x41)*
   ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
        (1 - x5 - x6))*((x4*(b1*e5*(1 - x12)*(1 - x18) + (2 - x12)*x18*
          x36 + x12*(2 - x18)*x42))/(2 - 2*(1 - e5)*(1 - x12)*(1 -
          x18)) + (x3*(b3*e5*(1 - x13)*(1 - x7) + x13*x31*(2 - x7) +
          (2 - x13)*x37*x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
       (((b1*e5*(1 - x10)*(1 - x16) + x10*(2 - x16)*x22 + (2 - x10)*x16*
           (1 - x28 - x34))*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
        (x5*(x14*x26*(2 - x8) + (2 - x14)*(1 - x20 - x38)*x8))/
         (2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
     ((((2 - x11)*x17*x29 + x11*(2 - x17)*(1 - x23 - x41))*
        (-1 + x2 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6)))/
       (2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
      (x1*(b3*e5*(1 - x15)*(1 - x9) + x15*(1 - x27 - x33)*(2 - x9) +
         (2 - x15)*x21*x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
 e3*(e3*(-2 + x12)*(1 - (1 - e5)*(1 - x12)*(1 - x18)) +
    (1 - x18)*(-(b1*e5*(1 - x12)) + x12*(-2 + e5 + (1 - e5)*x12)*x24 +
      (2 - x12)*(e5 + (1 - e5)*x12)*(1 - x30 - x36)))*
   (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
   (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) -
  (1 - x18)*(-(b1*e5*(1 - x12)) + (2 - x12)*(e5 + (1 - e5)*x12)*x36 +
     x12*(-2 + e5 + (1 - e5)*x12)*x42)*
   ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
     (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
         (2 - x12)*x18*(1 - x30 - x36))*(-1 + x4 + (1 - e4)*(1 - x1 - x2)*
          (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x12)*
```

```
                (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
          x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
            x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
          x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
        (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
          x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 + (2 - x11)*
            x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*x9))/
          (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) +
    (1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
        (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
          (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
          (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
          x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
          x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
        (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) +
          (2 - x14)*x38*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
      ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
          (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
          (1 - x17)) + ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*x9))/
        (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) +
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
      (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
          (2 - x12)*x18*(1 - x30 - x36))*(-1 + x4 + (1 - e4)*(1 - x1 - x2)*
          (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x12)*
          (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
          x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
    (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*
          (1 - x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) +
          (2 - x10)*x16*x34 + x10*(2 - x16)*x40)*x6)/
          (2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
        (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) +
          (2 - x14)*x38*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
            (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
            (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
            x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
    (e3*(-2 + x15)*(1 - (1 - e5)*(1 - x15)*(1 - x9)) +
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        (x15*(-2 + e5 + (1 - e5)*x15)*x27 + (2 - x15)*(e5 + (1 - e5)*x15)*
          (1 - x21 - x39))*(1 - x9)) -
    (-(b3*e5*(1 - x15)) + x15*(-2 + e5 + (1 - e5)*x15)*x33 +
      (2 - x15)*(e5 + (1 - e5)*x15)*x39)*(1 - x9)*
    ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
          (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*
            x24 + (2 - x12)*x18*(1 - x30 - x36))*x4)/
          (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
          (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*x7))/
          (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
        (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 + x10*(2 - x16)*
            x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
          (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
            x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
      (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
        ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
          (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
          (1 - x17)) + ((-1 + x1 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
          (1 - x5 - x6))*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
          x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) +
  (1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
        (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
          (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
          (1 - x18)) + (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
          x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
      (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
          x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
          (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) +
          (2 - x14)*x38*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
  (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
    (((b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
        (2 - x11)*x17*(1 - x29 - x35))*(-1 + x2 + (1 - e4)*(1 - x1 - x2)*
        (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x11)*
        (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
        x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    (e3*(-2 + x13)*(1 - (1 - e5)*(1 - x13)*(1 - x7)) +
      (x13*(-2 + e5 + (1 - e5)*x13)*x25 + (2 - x13)*(e5 + (1 - e5)*x13)*
        (1 - x19 - x37))*(1 - x7)) -
    (-(b3*e5*(1 - x13)) + x13*(-2 + e5 + (1 - e5)*x13)*x31 +
      (2 - x13)*(e5 + (1 - e5)*x13)*x37)*(1 - x7)*
    ((4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
      (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
        (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
        (1 - x18)) + ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
        (1 - x5 - x6))*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*
        x7))/(2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
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    (1 - x3 - x4)*((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 -
        x5 - x6)))*(((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
        x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
        x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
      (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
       ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 + (2 - x11)*
          x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*(1 - x17)) +
        (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*x9))/
         (2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))),
  e3*(e3*(-2 + x11)*(1 - (1 - e5)*(1 - x11)*(1 - x17)) +
     (1 - x17)*(-(b2*e5*(1 - x11)) + x11*(-2 + e5 + (1 - e5)*x11)*x23 +
      (2 - x11)*(e5 + (1 - e5)*x11)*(1 - x29 - x35)))*
    (1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6) -
   (1 - x17)*(-(b2*e5*(1 - x11)) + (2 - x11)*(e5 + (1 - e5)*x11)*x35 +
     x11*(-2 + e5 + (1 - e5)*x11)*x41)*
    ((1 - x1 - x2)*((1 + (2 + (1 - e4)*(1 - x3 - x4)*(3 - x5 - x6))*
         (1 - x5 - x6))*(((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*
           x24 + (2 - x12)*x18*(1 - x30 - x36))*x4)/
          (2 - 2*(1 - e5)*(1 - x12)*(1 - x18)) +
         (x3*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*x7))/
          (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) +
       (1 + (1 - x3 - x4)*(2 + (1 - e4)*(3 - x3 - x4)*(1 - x5 - x6)))*
        (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 + x10*(2 - x16)*
           x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
         (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) + (2 - x14)*x38*
           x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8)))) +
     (4 - x3 - x4 - x5 + 2*(1 - x3 - x4)*(1 - x5 - x6) - x6)*
      (((b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
          (2 - x11)*x17*(1 - x29 - x35))*(-1 + x2 + (1 - e4)*(1 - x1 - x2)*
          (1 - x3 - x4)*(1 - x5 - x6)))/(2 - 2*(1 - e5)*(1 - x11)*
          (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
          x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9)))),
  e3*(1 - (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*(1 - x5 - x6))*
    (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6) +
   (4 - x1 - x2 - x5 + 2*(1 - x1 - x2)*(1 - x5 - x6) - x6)*
    (((b1*e5*(1 - x12)*(1 - x18) + x12*(2 - x18)*x24 +
        (2 - x12)*x18*(1 - x30 - x36))*x4)/(2 - 2*(1 - e5)*(1 - x12)*
        (1 - x18)) + ((-1 + x3 + (1 - e4)*(1 - x1 - x2)*(1 - x3 - x4)*
        (1 - x5 - x6))*(x13*x25*(2 - x7) + (2 - x13)*(1 - x19 - x37)*x7))/
        (2 - 2*(1 - e5)*(1 - x13)*(1 - x7))) + (1 - x3 - x4)*
    ((1 + (1 - x1 - x2)*(2 + (1 - e4)*(3 - x1 - x2)*(1 - x5 - x6)))*
      (((b1*e5*(1 - x10)*(1 - x16) + (2 - x10)*x16*x34 +
         x10*(2 - x16)*x40)*x6)/(2 - 2*(1 - e5)*(1 - x10)*(1 - x16)) +
       (x5*(b2*e5*(1 - x14)*(1 - x8) + x14*x32*(2 - x8) +
         (2 - x14)*x38*x8))/(2 - 2*(1 - e5)*(1 - x14)*(1 - x8))) +
     (1 + (2 + (1 - e4)*(1 - x1 - x2)*(3 - x5 - x6))*(1 - x5 - x6))*
      ((x2*(b2*e5*(1 - x11)*(1 - x17) + x11*(2 - x17)*x23 +
         (2 - x11)*x17*(1 - x29 - x35)))/(2 - 2*(1 - e5)*(1 - x11)*
         (1 - x17)) + (x1*(x15*x27*(2 - x9) + (2 - x15)*(1 - x21 - x39)*
         x9))/(2 - 2*(1 - e5)*(1 - x15)*(1 - x9))))}
```