

Diagrams and algebraic expressions at order (2,2;2) in BIMSRG

The ADG Dev Team

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$C = [A, B]$ with $N_A = 2$, $N_B = 2$ and $N_C = 2$
 $d_{\max} \equiv \max(d_A, d_B, d_C)$

Valid diagrams: 82
 $d_{\max} = 1$ diagrams: 10
 $d_{\max} = 2$ diagrams: 72

Contents

1	Permutators definitions	1
2	$d_{\max} = 1$	1
2.1	C^{00}	1
2.2	C^{20}	2
2.3	C^{11}	2
2.4	C^{02}	3
3	$d_{\max} = 2$	3
3.1	C^{00}	3
3.2	C^{20}	4
3.3	C^{40}	5
3.4	C^{11}	6
3.5	C^{31}	8
3.6	C^{02}	10
3.7	C^{22}	11
3.8	C^{13}	14
3.9	C^{04}	17

1 Permutators definitions

$$\begin{aligned}
 P(k_1/k_2) &= 1 - P_{k_1 k_2} \\
 P(k_1/k_2 k_3) &= 1 - P_{k_1 k_2} - P_{k_1 k_3} \\
 P(k_1/k_2 k_3 k_4) &= 1 - P_{k_1 k_2} - P_{k_1 k_3} - P_{k_1 k_4} \\
 P(k_1 k_2/k_3 k_4) &= 1 - P_{k_1 k_3} - P_{k_1 k_4} - P_{k_2 k_3} - P_{k_2 k_4} + P_{k_1 k_3} P_{k_2 k_4} + P_{k_2 k_3} P_{k_1 k_4}
 \end{aligned}$$

2 $d_{\max} = 1$

2.1 C^{00}

Diagram 1 (+AB):

$$C^{00}(02, 20) = \frac{1}{2} \sum_{p_1 p_2} A_{p_1 p_2}^{02} B_{p_1 p_2}^{20} \quad (1)$$



Diagram 2 ($-BA$):

$$C^{00}(20, 02) = -\frac{1}{2} \sum_{p_1 p_2} B_{p_1 p_2}^{02} A_{p_1 p_2}^{20} \quad (2)$$



2.2 C^{20}

Diagram 3 ($+AB$):

$$C_{k_1 k_2}^{20}(11, 20) = P(k_1/k_2) \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2}^{20} \quad (3)$$

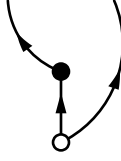
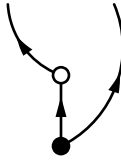


Diagram 4 ($-BA$):

$$C_{k_1 k_2}^{20}(20, 11) = -P(k_1/k_2) \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2}^{20} \quad (4)$$



2.3 C^{11}

Diagram 5 ($+AB$):

$$C_{k_1 k_2}^{11}(11, 11) = \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2}^{11} \quad (5)$$



Diagram 6 (+AB):

$$C_{k_1 k_2}^{11}(02, 20) = \sum_{p_1} A_{k_2 p_1}^{02} B_{p_1 k_1}^{20} \quad (6)$$



Diagram 7 (-BA):

$$C_{k_1 k_2}^{11}(11, 11) = - \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2}^{11} \quad (7)$$



Diagram 8 (-BA):

$$C_{k_1 k_2}^{11}(20, 02) = - \sum_{p_1} B_{k_2 p_1}^{02} A_{p_1 k_1}^{20} \quad (8)$$



2.4 C^{02}

Diagram 9 (+AB):

$$C_{k_1 k_2}^{02}(02, 11) = P(k_1/k_2) \sum_{p_1} A_{k_1 p_1}^{02} B_{p_1 k_2}^{11} \quad (9)$$

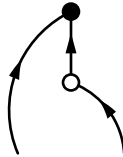
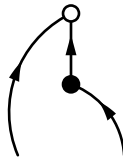


Diagram 10 (-BA):

$$C_{k_1 k_2}^{02}(11, 02) = -P(k_1/k_2) \sum_{p_1} B_{k_1 p_1}^{02} A_{p_1 k_2}^{11} \quad (10)$$



3 $d_{\max} = 2$

3.1 C^{00}

Diagram 11 (+AB):

$$C^{00}(04, 40) = \frac{1}{24} \sum_{p_1 p_2 p_3 p_4} A_{p_1 p_2 p_3 p_4}^{04} B_{p_1 p_2 p_3 p_4}^{40} \quad (11)$$



Diagram 12 (-BA):

$$C^{00}(40, 04) = -\frac{1}{24} \sum_{p_1 p_2 p_3 p_4} B_{p_1 p_2 p_3 p_4}^{04} A_{p_1 p_2 p_3 p_4}^{40} \quad (12)$$



3.2 C^{20}

Diagram 13 (+AB):

$$C_{k_1 k_2}^{20}(02, 40) = \frac{1}{2} \sum_{p_1 p_2} A_{p_1 p_2}^{02} B_{p_1 p_2 k_1 k_2}^{40} \quad (13)$$



Diagram 14 (+AB):

$$C_{k_1 k_2}^{20}(13, 40) = P(k_1/k_2) \frac{1}{6} \sum_{p_1 p_2 p_3} A_{k_1 p_1 p_2 p_3}^{13} B_{p_1 p_2 p_3 k_2}^{40} \quad (14)$$

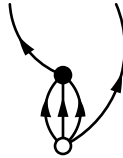


Diagram 15 (+AB):

$$C_{k_1 k_2}^{20}(22, 20) = \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{22} B_{p_1 p_2}^{20} \quad (15)$$



Diagram 16 ($-BA$):

$$C_{k_1 k_2}^{20}(40, 02) = -\frac{1}{2} \sum_{p_1 p_2} B_{p_1 p_2}^{02} A_{p_1 p_2 k_1 k_2}^{40} \quad (16)$$



Diagram 17 ($-BA$):

$$C_{k_1 k_2}^{20}(40, 13) = -P(k_1/k_2) \frac{1}{6} \sum_{p_1 p_2 p_3} B_{k_1 p_1 p_2 p_3}^{13} A_{p_1 p_2 p_3 k_2}^{40} \quad (17)$$

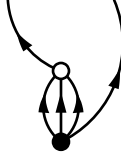


Diagram 18 ($-BA$):

$$C_{k_1 k_2}^{20}(20, 22) = -\frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{22} A_{p_1 p_2}^{20} \quad (18)$$



3.3 C^{40}

Diagram 19 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{40}(11, 40) = P(k_1/k_2 k_3 k_4) \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2 k_3 k_4}^{40} \quad (19)$$

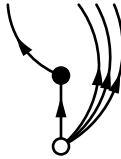


Diagram 20 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{40}(22, 40) = P(k_1 k_2 / k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{22} B_{p_1 p_2 k_3 k_4}^{40} \quad (20)$$

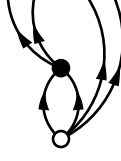


Diagram 21 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{40}(31, 20) = P(k_1 k_2 k_3 / k_4) \sum_{p_1} A_{k_1 k_2 k_3 p_1}^{31} B_{p_1 k_4}^{20} \quad (21)$$

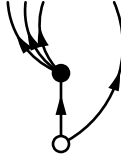


Diagram 22 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{40}(40, 11) = -P(k_1 / k_2 k_3 k_4) \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2 k_3 k_4}^{40} \quad (22)$$

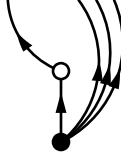


Diagram 23 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{40}(40, 22) = -P(k_1 k_2 / k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{22} A_{p_1 p_2 k_3 k_4}^{40} \quad (23)$$

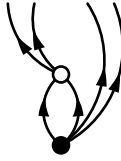
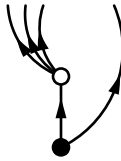


Diagram 24 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{40}(20, 31) = -P(k_1 k_2 k_3 / k_4) \sum_{p_1} B_{k_1 k_2 k_3 p_1}^{31} A_{p_1 k_4}^{20} \quad (24)$$



3.4 C^{11}

Diagram 25 (+AB):

$$C_{k_1 k_2}^{11}(02, 31) = \frac{1}{2} \sum_{p_1 p_2} A_{p_1 p_2}^{02} B_{p_1 p_2 k_1 k_2}^{31} \quad (25)$$



Diagram 26 (+AB):

$$C_{k_1 k_2}^{11}(13, 31) = \frac{1}{6} \sum_{p_1 p_2 p_3} A_{k_1 p_1 p_2 p_3}^{13} B_{p_1 p_2 p_3 k_2}^{31} \quad (26)$$



Diagram 27 (+AB):

$$C_{k_1 k_2}^{11}(04, 40) = \frac{1}{6} \sum_{p_1 p_2 p_3} A_{k_2 p_1 p_2 p_3}^{04} B_{p_1 p_2 p_3 k_1}^{40} \quad (27)$$



Diagram 28 (+AB):

$$C_{k_1 k_2}^{11}(13, 20) = \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{13} B_{p_1 p_2}^{20} \quad (28)$$



Diagram 29 (-BA):

$$C_{k_1 k_2}^{11}(31, 02) = -\frac{1}{2} \sum_{p_1 p_2} B_{p_1 p_2}^{02} A_{p_1 p_2 k_1 k_2}^{31} \quad (29)$$



Diagram 30 ($-BA$):

$$C_{k_1 k_2}^{11}(31, 13) = -\frac{1}{6} \sum_{p_1 p_2 p_3} B_{k_1 p_1 p_2 p_3}^{13} A_{p_1 p_2 p_3 k_2}^{31} \quad (30)$$



Diagram 31 ($-BA$):

$$C_{k_1 k_2}^{11}(40, 04) = -\frac{1}{6} \sum_{p_1 p_2 p_3} B_{k_2 p_1 p_2 p_3}^{04} A_{p_1 p_2 p_3 k_1}^{40} \quad (31)$$



Diagram 32 ($-BA$):

$$C_{k_1 k_2}^{11}(20, 13) = -\frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{13} A_{p_1 p_2}^{20} \quad (32)$$



3.5 C^{31}

Diagram 33 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{31}(11, 31) = P(k_1/k_2 k_3) \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2 k_3 k_4}^{31} \quad (33)$$

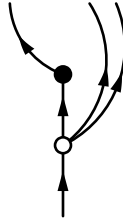


Diagram 34 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{31}(22, 31) = P(k_1 k_2/k_3) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{22} B_{p_1 p_2 k_3 k_4}^{31} \quad (34)$$

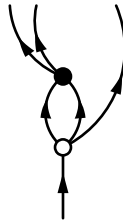


Diagram 35 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{31}(31, 11) = \sum_{p_1} A_{k_1 k_2 k_3 p_1}^{31} B_{p_1 k_4}^{11} \quad (35)$$



Diagram 36 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{31}(02, 40) = \sum_{p_1} A_{k_4 p_1}^{02} B_{p_1 k_1 k_2 k_3}^{40} \quad (36)$$



Diagram 37 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{31}(13, 40) = P(k_1/k_2 k_3) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_4 p_1 p_2}^{13} B_{p_1 p_2 k_2 k_3}^{40} \quad (37)$$

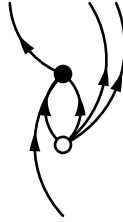


Diagram 38 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{31}(22, 20) = P(k_1 k_2/k_3) \sum_{p_1} A_{k_1 k_2 k_4 p_1}^{22} B_{p_1 k_3}^{20} \quad (38)$$

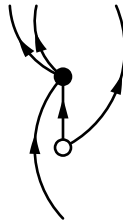


Diagram 39 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{31}(31, 11) = -P(k_1/k_2 k_3) \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2 k_3 k_4}^{31} \quad (39)$$

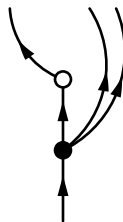


Diagram 40 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{31}(31, 22) = -P(k_1 k_2 / k_3) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{22} A_{p_1 p_2 k_3 k_4}^{31} \quad (40)$$

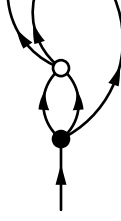


Diagram 41 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{31}(11, 31) = - \sum_{p_1} B_{k_1 k_2 k_3 p_1}^{31} A_{p_1 k_4}^{11} \quad (41)$$



Diagram 42 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{31}(40, 02) = - \sum_{p_1} B_{k_4 p_1}^{02} A_{p_1 k_1 k_2 k_3}^{40} \quad (42)$$

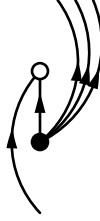


Diagram 43 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{31}(40, 13) = -P(k_1 / k_2 k_3) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_4 p_1 p_2}^{13} A_{p_1 p_2 k_2 k_3}^{40} \quad (43)$$

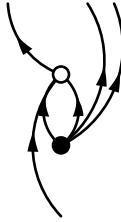
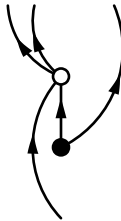


Diagram 44 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{31}(20, 22) = -P(k_1 k_2 / k_3) \sum_{p_1} B_{k_1 k_2 k_4 p_1}^{22} A_{p_1 k_3}^{20} \quad (44)$$



3.6 C^{02}

Diagram 45 (+AB):

$$C_{k_1 k_2}^{02}(02, 22) = \frac{1}{2} \sum_{p_1 p_2} A_{p_1 p_2}^{02} B_{p_1 p_2 k_1 k_2}^{22} \quad (45)$$



Diagram 46 (+AB):

$$C_{k_1 k_2}^{02}(04, 31) = P(k_1/k_2) \frac{1}{6} \sum_{p_1 p_2 p_3} A_{k_1 p_1 p_2 p_3}^{04} B_{p_1 p_2 p_3 k_2}^{31} \quad (46)$$

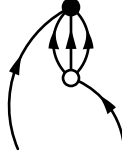


Diagram 47 (+AB):

$$C_{k_1 k_2}^{02}(04, 20) = \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{04} B_{p_1 p_2}^{20} \quad (47)$$



Diagram 48 (-BA):

$$C_{k_1 k_2}^{02}(22, 02) = -\frac{1}{2} \sum_{p_1 p_2} B_{p_1 p_2}^{02} A_{p_1 p_2 k_1 k_2}^{22} \quad (48)$$



Diagram 49 (-BA):

$$C_{k_1 k_2}^{02}(31, 04) = -P(k_1/k_2) \frac{1}{6} \sum_{p_1 p_2 p_3} B_{k_1 p_1 p_2 p_3}^{04} A_{p_1 p_2 p_3 k_2}^{31} \quad (49)$$

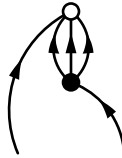


Diagram 50 ($-BA$):

$$C_{k_1 k_2}^{02}(20, 04) = -\frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{04} A_{p_1 p_2}^{20} \quad (50)$$



3.7 C^{22}

Diagram 51 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{22}(11, 22) = P(k_1/k_2) \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2 k_3 k_4}^{22} \quad (51)$$

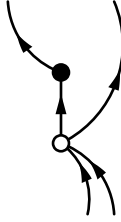


Diagram 52 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{22}(22, 22) = \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{22} B_{p_1 p_2 k_3 k_4}^{22} \quad (52)$$

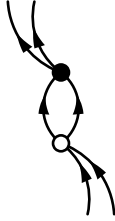


Diagram 53 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{22}(02, 31) = P(k_3/k_4) \sum_{p_1} A_{k_3 p_1}^{02} B_{p_1 k_1 k_2 k_4}^{31} \quad (53)$$

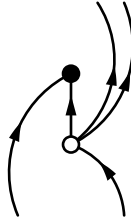


Diagram 54 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{22}(13, 31) = P(k_1/k_2) P(k_3/k_4) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_3 p_1 p_2}^{13} B_{p_1 p_2 k_2 k_4}^{31} \quad (54)$$

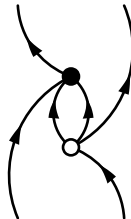


Diagram 55 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{22}(22, 11) = P(k_3/k_4) \sum_{p_1} A_{k_1 k_2 k_3 p_1}^{22} B_{p_1 k_4}^{11} \quad (55)$$

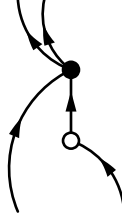


Diagram 56 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{22}(04, 40) = \frac{1}{2} \sum_{p_1 p_2} A_{k_3 k_4 p_1 p_2}^{04} B_{p_1 p_2 k_1 k_2}^{40} \quad (56)$$



Diagram 57 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{22}(13, 20) = P(k_1/k_2) \sum_{p_1} A_{k_1 k_3 k_4 p_1}^{13} B_{p_1 k_2}^{20} \quad (57)$$

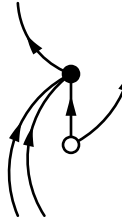


Diagram 58 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{22}(22, 11) = -P(k_1/k_2) \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2 k_3 k_4}^{22} \quad (58)$$

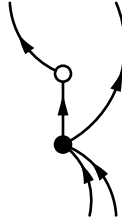


Diagram 59 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{22}(22, 22) = -\frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{22} A_{p_1 p_2 k_3 k_4}^{22} \quad (59)$$

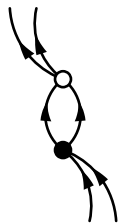


Diagram 60 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{22}(31, 02) = -P(k_3/k_4) \sum_{p_1} B_{k_3 p_1}^{02} A_{p_1 k_1 k_2 k_4}^{31} \quad (60)$$

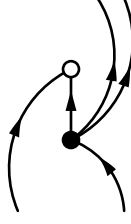


Diagram 61 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{22}(31, 13) = -P(k_1/k_2)P(k_3/k_4) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_3 p_1 p_2}^{13} A_{p_1 p_2 k_2 k_4}^{31} \quad (61)$$

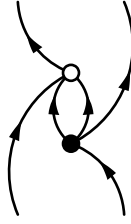


Diagram 62 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{22}(11, 22) = -P(k_3/k_4) \sum_{p_1} B_{k_1 k_2 k_3 p_1}^{22} A_{p_1 k_4}^{11} \quad (62)$$

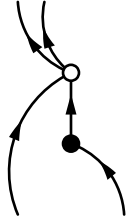


Diagram 63 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{22}(40, 04) = -\frac{1}{2} \sum_{p_1 p_2} B_{k_3 k_4 p_1 p_2}^{04} A_{p_1 p_2 k_1 k_2}^{40} \quad (63)$$

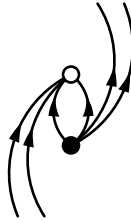
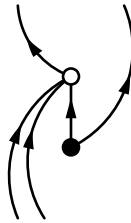


Diagram 64 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{22}(20, 13) = -P(k_1/k_2) \sum_{p_1} B_{k_1 k_3 k_4 p_1}^{13} A_{p_1 k_2}^{20} \quad (64)$$



3.8 C^{13}

Diagram 65 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(11, 13) = \sum_{p_1} A_{k_1 p_1}^{11} B_{p_1 k_2 k_3 k_4}^{13} \quad (65)$$

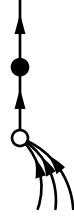


Diagram 66 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(02, 22) = P(k_2/k_3 k_4) \sum_{p_1} A_{k_2 p_1}^{02} B_{p_1 k_1 k_3 k_4}^{22} \quad (66)$$

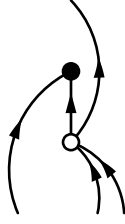


Diagram 67 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(13, 22) = P(k_2/k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{13} B_{p_1 p_2 k_3 k_4}^{22} \quad (67)$$

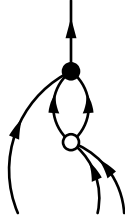


Diagram 68 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(04, 31) = P(k_2 k_3/k_4) \frac{1}{2} \sum_{p_1 p_2} A_{k_2 k_3 p_1 p_2}^{04} B_{p_1 p_2 k_1 k_4}^{31} \quad (68)$$

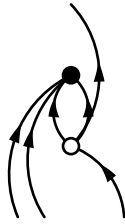


Diagram 69 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(13, 11) = P(k_2 k_3/k_4) \sum_{p_1} A_{k_1 k_2 k_3 p_1}^{13} B_{p_1 k_4}^{11} \quad (69)$$

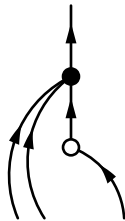


Diagram 70 (+AB):

$$C_{k_1 k_2 k_3 k_4}^{13}(04, 20) = \sum_{p_1} A_{k_2 k_3 k_4 p_1}^{04} B_{p_1 k_1}^{20} \quad (70)$$



Diagram 71 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{13}(13, 11) = - \sum_{p_1} B_{k_1 p_1}^{11} A_{p_1 k_2 k_3 k_4}^{13} \quad (71)$$

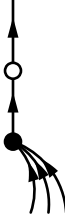


Diagram 72 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{13}(22, 02) = -P(k_2/k_3 k_4) \sum_{p_1} B_{k_2 p_1}^{02} A_{p_1 k_1 k_3 k_4}^{22} \quad (72)$$

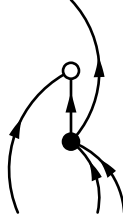


Diagram 73 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{13}(22, 13) = -P(k_2/k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{13} A_{p_1 p_2 k_3 k_4}^{22} \quad (73)$$

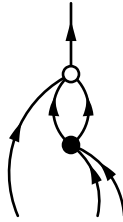


Diagram 74 (-BA):

$$C_{k_1 k_2 k_3 k_4}^{13}(31, 04) = -P(k_2 k_3/k_4) \frac{1}{2} \sum_{p_1 p_2} B_{k_2 k_3 p_1 p_2}^{04} A_{p_1 p_2 k_1 k_4}^{31} \quad (74)$$

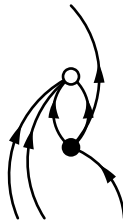


Diagram 75 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{13}(11, 13) = -P(k_2 k_3 / k_4) \sum_{p_1} B_{k_1 k_2 k_3 p_1}^{13} A_{p_1 k_4}^{11} \quad (75)$$

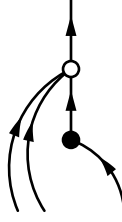


Diagram 76 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{13}(20, 04) = - \sum_{p_1} B_{k_2 k_3 k_4 p_1}^{04} A_{p_1 k_1}^{20} \quad (76)$$



3.9 C^{04}

Diagram 77 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{04}(02, 13) = P(k_1 / k_2 k_3 k_4) \sum_{p_1} A_{k_1 p_1}^{02} B_{p_1 k_2 k_3 k_4}^{13} \quad (77)$$

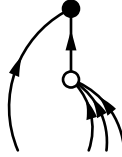


Diagram 78 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{04}(04, 22) = P(k_1 k_2 / k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} A_{k_1 k_2 p_1 p_2}^{04} B_{p_1 p_2 k_3 k_4}^{22} \quad (78)$$



Diagram 79 ($+AB$):

$$C_{k_1 k_2 k_3 k_4}^{04}(04, 11) = P(k_1 k_2 k_3 / k_4) \sum_{p_1} A_{k_1 k_2 k_3 p_1}^{04} B_{p_1 k_4}^{11} \quad (79)$$

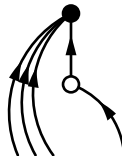


Diagram 80 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{04}(13, 02) = -P(k_1/k_2 k_3 k_4) \sum_{p_1} B_{k_1 p_1}^{02} A_{p_1 k_2 k_3 k_4}^{13} \quad (80)$$

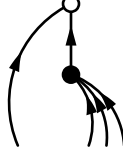


Diagram 81 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{04}(22, 04) = -P(k_1 k_2/k_3 k_4) \frac{1}{2} \sum_{p_1 p_2} B_{k_1 k_2 p_1 p_2}^{04} A_{p_1 p_2 k_3 k_4}^{22} \quad (81)$$

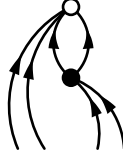


Diagram 82 ($-BA$):

$$C_{k_1 k_2 k_3 k_4}^{04}(11, 04) = -P(k_1 k_2 k_3/k_4) \sum_{p_1} B_{k_1 k_2 k_3 p_1}^{04} A_{p_1 k_4}^{11} \quad (82)$$

