

- 1×1

$$4p_i^2 + 4r_i^2 + 2$$

- 2×2

$$16p_i^2x_i^2 - 32p_iq_ir_ix_i + 16q_i^2r_i^2 + 8p_i^2 + 8q_i^2 + 8r_i^2 + 8x_i^2 + 4$$

- 3×3

$$8p_i^2 + 8q_i^2 + 4$$

- 4×4

$$8p_i^2r_i^2 + 4p_i^2x_i^2 + 8p_iq_ir_ix_i + 4q_i^2r_i^2 + 8q_i^2x_i^2 - 8p_ir_iv_i - 8q_iv_ix_i + 2r_i^2 + 4v_i^2 + 2x_i^2$$

- 5×5

$$4p_i^2r_i^2 + 4q_i^2r_i^2 - 4p_ir_iv_i + r_i^2 + 2v_i^2$$

- 6×6

$$16p_1^2p_i^2r_i^2 + 16p_1^2q_i^2r_i^2 + 16p_i^2r^2r_i^2 + 16q_i^2r^2r_i^2 - 16p_1^2p_ir_iv_i - 16p_ir^2r_iv_i + 4p_1^2r_i^2 + 8p_1^2v_i^2 + 4p_i^2r_i^2 + 4r^2r_i^2 + 8r^2v_i^2 - 4p_ir_iv_i + v_i^2$$

- 7×7

$$64p_1^2p_i^2r_i^2x^2 + 64p_1^2q_i^2r_i^2x^2 - 128p_1p_i^2q_1rr_i^2x - 128p_1q_1q_i^2rr_i^2x + 64p_i^2q_1^2r^2r_i^2 + 64q_1^2q_i^2r^2r_i^2 - 64p_1^2p_ir_iv_ix^2 + 128p_1p_iq_1rr_iv_ix - 64p_iq_1^2r^2r_iv_i + 16p_1^2q_i^2r_i^2 + 16p_i^2r_i^2x^2 + 32p_1^2v_i^2x^2 - 32p_1p_iq_1q_ir_i^2 - 32p_1q_1rr_i^2x - 64p_1q_1rv_i^2x + 16p_i^2q_1^2r_i^2 + 16p_i^2r_i^2x^2 - 32p_iq_1rr_i^2x + 16q_1^2r^2r_i^2 + 32q_1^2r^2v_i^2 + 16q_i^2r^2r_i^2 + 16p_1q_1q_ir_iv_i - 16p_iq_1^2r_iv_i - 16p_ir_iv_ix^2 + 16q_1rr_iv_ix + 4q_1^2v_i^2 + 4v_i^2x^2$$

- 8×8

$$128p_1^2p_i^2r_i^2x^2 + 128p_1^2q_i^2r_i^2x^2 - 256p_1p_i^2q_1rr_i^2x - 256p_1q_1q_i^2rr_i^2x + 128p_i^2q_1^2r^2r_i^2 + 128q_1^2q_i^2r^2r_i^2 - 128p_1^2p_ir_iv_ix^2 + 256p_1p_iq_1rr_iv_ix - 128p_iq_1^2r^2r_iv_i + 48p_i^2q_i^2r_i^2 + 32p_1^2r_i^2x^2 + 64p_1^2v_i^2x^2 - 96p_1p_iq_1q_ir_i^2 - 64p_1q_1r_i^2xr - 128p_1q_1rv_i^2x + 48p_i^2q_1^2r_i^2 + 32p_i^2r_i^2x^2 - 64p_iq_1rr_i^2x + 32q_1^2r^2r_i^2 + 64q_1^2r^2v_i^2 + 32q_i^2r^2r_i^2 - df + 48p_1q_1q_ir_iv_i - 48p_iq_1^2r_iv_i - 32p_ir_iv_ix^2 + 32q_1rr_iv_ix + 12q_1^2v_i^2 + 8v_i^2x^2$$

- 9×9

$$128p_1^2p_i^2r_i^2x^2 - 128p_1^2p_iq_ir^3r_i^2x + 128p_1^2p_iq_1rr_i^2x^3 + 32p_i^2q_i^2r^4r_i^2 - 64p_1^2q_i^2r^2r_i^2x^2 + 32p_1^2q_i^2r_i^2x^4 - 128p_1p_i^2q_1r^3r_i^2x + 128p_1p_i^2q_1rr_i^2x^3 + 64p_1p_iq_1q_ir^4r_i^2 - 384p_1p_iq_1q_ir^2r_i^2x^2 + 64p_1p_iq_1q_ir_i^2x^4 + 128p_1q_1q_i^2r^3r_i^2x - 128p_1q_1q_i^2rr_i^2x^3 + 32p_i^2q_1^2r^4r_i^2 - 64p_i^2q_1^2r^2r_i^2x^2 + 32p_i^2q_1^2r_i^2x^4 + 128p_iq_1^2q_ir^3r_i^2x - 128p_iq_1^2q_1rr_i^2x^3 + 128q_1^2q_i^2r^2r_i^2x^2 - 128p_1^2p_ir^2r_iv_ix^2 + 64p_1^2q_i^2r^3r_iv_ix - 64p_1^2q_1rr_iv_ix^3 - 128p_1p_i^2rr_i^2vx^2 + 128p_1p_iq_1r^3r_iv_ix - 128p_1p_iq_1rr_iv_ix^3 + 192p_1p_iq_1r^2r_i^2vx - 64p_1p_iq_1r^2v_ix^3 - 32p_1q_1q_ir^4r_iv_i + 192p_1q_1q_ir^2r_iv_ix^2 - 32p_1q_1q_ir_iv_ix^4 - 64p_1q_1^2r^3r_iv_i + 64p_1q_1^2rr_iv_ix^2 + 64p_i^2q_1r^2r_i^2vx - 64p_i^2q_1r_i^2vx^3 - 32p_iq_1^2r^4r_iv_i + 64p_iq_1^2r^2r_iv_ix^2 - 32p_iq_1^2r_iv_ix^4 - 64p_iq_1q_ir^3r_iv_i + 192p_iq_1q_1rr_iv_ix^2 - 64q_1^2q_ir^3r_iv_ix + 64q_1^2q_1rr_iv_ix^3 - 128q_1q_i^2r^2r_i^2vx + 32p_1^2r^2v_i^2x^2 + 128p_1p_1rr_iv_iv_ix^2 - 32p_1q_1r^3v_i^2x + 32p_1q_1rv_i^2x^3 - 96p_1q_1r^2r_iv_iv_ix + 32p_1q_1r_iv_iv_ix^3 + 32p_i^2r_i^2v^2x^2 - 64p_iq_1r^2r_iv_iv_ix + 64p_iq_1r_iv_iv_ix^3 - 64p_iq_1rr_i^2v^2x + 8q_1^2r^4v_i^2 - 16q_1^2r^2v_i^2x^2 + 8q_1^2v_i^2x^4 + 32q_1q_1r^3r_iv_iv_i - 96q_1q_1rr_iv_iv_ix^2 + 32q_i^2r^2r_i^2v^2 - 32p_1rv_iv_iv_ix^2 - 32p_ir_iv_iv_ix^2 + 16q_1rv_iv_iv_ix - 16q_1vv_iv_iv_ix^3 + 32q_1rr_iv_iv_ix^2 + 8v_i^2v_i^2x^2$$

• 10×10

$$\begin{aligned}
& \frac{4}{c^4} (64c^3 d_1 p_1^2 p_i^2 r^2 r_i^2 x^2 + 64c^3 d_1 p_1^2 q_i^2 r^2 r_i^2 x^2 - 64c^3 d_1 p_1 p_i^2 q_1 r^3 r_i^2 x + 64c^3 d_1 p_1 p_i^2 q_1 r r_i^2 x^3 \\
& - 64c^3 d_1 p_1 q_1 q_i^2 r^3 r_i^2 x + 64c^3 d_1 p_1 q_1 q_i^2 r r_i^2 x^3 + 16c^3 d_1 p_i^2 q_1^2 r^4 r_i^2 - 32c^3 d_1 p_i^2 q_1^2 r^2 r_i^2 x^2 + 16c^3 d_1 p_i^2 q_1^2 r_i^2 x^4 \\
& + 16c^3 d_1 q_1^2 q_i^2 r^4 r_i^2 - 32c^3 d_1 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_1 q_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 p_1^2 q_i^2 r^4 r_i^2 + 32c^3 d_2 p_1^2 q_i^2 r^2 r_i^2 x^2 \\
& + 16c^3 d_2 p_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 q_1^2 q_i^2 r^4 r_i^2 + 32c^3 d_2 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_2 q_1^2 q_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_1^2 p_i^2 r^4 r_i^2 \\
& + 64c^2 d_1 d_2 p_1^2 p_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_1^2 p_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_1^2 q_i^2 r^4 r_i^2 + 64c^2 d_1 d_2 p_1^2 q_i^2 r^2 r_i^2 x^2 \\
& + 32c^2 d_1 d_2 p_1^2 q_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_i^2 q_1^2 r^4 r_i^2 + 64c^2 d_1 d_2 p_i^2 q_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_i^2 q_1^2 r_i^2 x^4 \\
& + 32c^2 d_1 d_2 q_1^2 q_i^2 r^4 r_i^2 + 64c^2 d_1 d_2 q_1^2 q_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_1^2 q_i^2 r_i^2 x^4 - 64c^3 d_1 p_1^2 p_i r^2 r_i v_i x^2 \\
& - 64c^3 d_1 p_1 p_i^2 r r_i^2 v_i x^2 + 64c^3 d_1 p_1 p_i q_1 r^3 r_i v_i x - 64c^3 d_1 p_1 p_i q_1 r r_i v_i x^3 - 64c^3 d_1 p_1 q_i^2 r r_i^2 v_i x^2 \\
& + 32c^3 d_1 p_i^2 q_1 r^2 r_i^2 v_i x - 32c^3 d_1 p_i^2 q_1 r_i^2 v_i x^3 - 16c^3 d_1 p_i q_1^2 r^4 r_i v_i + 32c^3 d_1 p_i q_1^2 r^2 r_i v_i x^2 - 16c^3 d_1 p_i q_1^2 r_i v_i x^4 \\
& + 32c^3 d_1 q_1 q_i^2 r^2 r_i^2 v_i x - 32c^3 d_1 q_1 q_i^2 r_i^2 v_i x^3 - 32c^3 d_2 p_1 q_i^2 r^3 r_i^2 v_i - 32c^3 d_2 p_1 q_i^2 r r_i^2 v_i x^2 - 32c^3 d_2 q_1 q_i^2 r^2 r_i^2 v_i x \\
& - 32c^3 d_2 q_1 q_i^2 r_i^2 v_i x^3 - 32c^2 d_1 d_2 p_1^2 p_i r^4 r_i v_i - 64c^2 d_1 d_2 p_1^2 p_i r^2 r_i v_i x^2 - 32c^2 d_1 d_2 p_1^2 p_i r_i v_i x^4 \\
& - 64c^2 d_1 d_2 p_1 p_i^2 r^3 r_i^2 v_i - 64c^2 d_1 d_2 p_1 p_i^2 r r_i^2 v_i x^2 - 64c^2 d_1 d_2 p_1 q_i^2 r^3 r_i^2 v_i - 64c^2 d_1 d_2 p_1 q_i^2 r r_i^2 v_i x^2 \\
& - 64c^2 d_1 d_2 p_i^2 q_1 r^2 r_i^2 v_i x - 64c^2 d_1 d_2 p_i^2 q_1 r_i^2 v_i x^3 - 32c^2 d_1 d_2 p_i q_1^2 r^4 r_i v_i - 64c^2 d_1 d_2 p_i q_1^2 r^2 r_i v_i x^2 \\
& - 32c^2 d_1 d_2 p_i q_1^2 r_i v_i x^4 - 64c^2 d_1 d_2 q_1 q_i^2 r^2 r_i^2 v_i x - 64c^2 d_1 d_2 q_1 q_i^2 r_i^2 v_i x^3 + 16c^3 d_1 p_1^2 r^2 v_i^2 x^2 \\
& + 64c^3 d_1 p_1 p_i r r_i v_i v_i x^2 - 16c^3 d_1 p_1 q_1 r^3 v_i^2 x + 16c^3 d_1 p_1 q_1 r v_i^2 x^3 + 16c^3 d_1 p_i^2 r_i^2 v_i^2 x^2 \\
& - 32c^3 d_1 p_i q_1 r^2 r_i v_i v_i x + 32c^3 d_1 p_i q_1 r_i v_i v_i x^3 + 4c^3 d_1 q_1^2 r^4 v_i^2 - 8c^3 d_1 q_1^2 r^2 v_i^2 x^2 + 4c^3 d_1 q_1^2 v_i^2 x^4 \\
& + 16c^3 d_1 q_i^2 r_i^2 v_i^2 x^2 + 16c^3 d_2 q_i^2 r^2 r_i^2 v_i^2 + 16c^3 d_2 q_i^2 r_i^2 v_i^2 x^2 + 32c^2 d_1^2 p_1^2 r^2 r_i^2 x^2 + 32c^2 d_1^2 p_1^2 r^2 v_i^2 x^2 \\
& - 32c^2 d_1^2 p_1 q_1 r^3 r_i^2 x - 32c^2 d_1^2 p_1 q_1 r^3 v_i^2 x + 32c^2 d_1^2 p_1 q_1 r r_i^2 x^3 + 32c^2 d_1^2 p_1 q_1 r v_i^2 x^3 + 8c^2 d_1^2 q_1^2 r^4 r_i^2 \\
& + 8c^2 d_1^2 q_1^2 r^4 v_i^2 - 16c^2 d_1^2 q_1^2 r^2 r_i^2 x^2 - 16c^2 d_1^2 q_1^2 r^2 v_i^2 x^2 + 8c^2 d_1^2 q_1^2 r_i^2 x^4 + 8c^2 d_1^2 q_1^2 v_i^2 x^4 + 48c^2 d_1 d_2 p_1^2 p_i^2 r^2 r_i^2 \\
& + 48c^2 d_1 d_2 p_1^2 q_i^2 r^2 r_i^2 + 8c^2 d_1 d_2 p_1^2 r^4 r_i^2 + 16c^2 d_1 d_2 p_1^2 r^4 v_i^2 + 16c^2 d_1 d_2 p_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_1^2 r^2 v_i^2 x^2 \\
& + 8c^2 d_1 d_2 p_1^2 r_i^2 x^4 + 16c^2 d_1 d_2 p_1^2 v_i^2 x^4 + 64c^2 d_1 d_2 p_1 p_i r^3 r_i v_i v_i + 64c^2 d_1 d_2 p_1 p_i r r_i v_i v_i x^2 \\
& + 48c^2 d_1 d_2 p_i^2 q_1^2 r^2 r_i^2 + 8c^2 d_1 d_2 p_i^2 r^4 r_i^2 + 32c^2 d_1 d_2 p_i^2 r^2 r_i^2 v_i^2 + 16c^2 d_1 d_2 p_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_i^2 r_i^2 v_i^2 x^2 \\
& + 8c^2 d_1 d_2 p_i^2 r_i^2 x^4 + 64c^2 d_1 d_2 p_i q_1 r^2 r_i v_i v_i + 64c^2 d_1 d_2 p_i q_1 r_i v_i v_i x^3 + 48c^2 d_1 d_2 q_1^2 q_i^2 r^2 r_i^2 + 8c^2 d_1 d_2 q_1^2 r^4 r_i^2 \\
& + 16c^2 d_1 d_2 q_1^2 r^4 v_i^2 + 16c^2 d_1 d_2 q_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_1^2 r^2 v_i^2 x^2 + 8c^2 d_1 d_2 q_1^2 r_i^2 x^4 + 16c^2 d_1 d_2 q_1^2 v_i^2 x^4 \\
& + 8c^2 d_1 d_2 q_i^2 r^4 r_i^2 + 32c^2 d_1 d_2 q_i^2 r^2 r_i^2 v_i^2 + 16c^2 d_1 d_2 q_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_i^2 r_i^2 v_i^2 x^2 + 8c^2 d_1 d_2 q_i^2 r_i^2 x^4 \\
& + 8c^2 d_2^2 q_i^2 r^4 r_i^2 + 16c^2 d_2^2 q_i^2 r^2 r_i^2 x^2 + 8c^2 d_2^2 q_i^2 r_i^2 x^4 + 16c d_1^2 d_2 p_1^2 r^4 r_i^2 + 16c d_1^2 d_2 p_1^2 r^4 v_i^2 + 32c d_1^2 d_2 p_1^2 r^2 r_i^2 x^2 \\
& + 32c d_1^2 d_2 p_1^2 r^2 v_i^2 x^2 + 16c d_1^2 d_2 p_1^2 r_i^2 x^4 + 16c d_1^2 d_2 p_1^2 v_i^2 x^4 + 16c d_1^2 d_2 q_1^2 r^4 r_i^2 + 16c d_1^2 d_2 q_1^2 r^4 v_i^2 \\
& + 32c d_1^2 d_2 q_1^2 r^2 r_i^2 x^2 + 32c d_1^2 d_2 q_1^2 r^2 v_i^2 x^2 + 16c d_1^2 d_2 q_1^2 r_i^2 x^4 + 16c d_1^2 d_2 q_1^2 v_i^2 x^4 + 16c d_1^2 d_2 p_i^2 r^4 r_i^2 \\
& + 32c d_1^2 d_2 p_i^2 r^2 r_i^2 x^2 + 16c d_1^2 d_2 p_i^2 r_i^2 x^4 + 16c d_1^2 d_2 q_i^2 r^4 r_i^2 + 32c d_1^2 d_2 q_i^2 r^2 r_i^2 x^2 + 16c d_1^2 d_2 q_i^2 r_i^2 x^4 \\
& - 16c^3 d_1 p_1 r v_i v_i^2 x^2 - 16c^3 d_1 p_i r_i v_i^2 v_i x^2 + 8c^3 d_1 q_1 r^2 v_i v_i^2 x - 8c^3 d_1 q_1 v_i v_i^2 x^3 - 32c^2 d_1^2 p_1 r r_i^2 v_i x^2 \\
& - 32c^2 d_1^2 p_1 r v_i v_i^2 x^2 + 16c^2 d_1^2 q_1 r^2 r_i^2 v_i x + 16c^2 d_1^2 q_1 r^2 v_i v_i^2 x - 16c^2 d_1^2 q_1 r_i^2 v_i x^3 - 16c^2 d_1^2 q_1 v_i v_i^2 x^3 \\
& - 48c^2 d_1 d_2 p_1^2 p_i r^2 r_i v_i - 48c^2 d_1 d_2 p_1 p_i^2 r r_i^2 v_i - 48c^2 d_1 d_2 p_1 q_i^2 r r_i^2 v_i - 16c^2 d_1 d_2 p_1 r^3 r_i^2 v_i - 32c^2 d_1 d_2 p_1 r^3 v_i v_i^2 \\
& - 16c^2 d_1 d_2 p_1 r r_i^2 v_i x^2 - 32c^2 d_1 d_2 p_1 r v_i v_i^2 x^2 - 48c^2 d_1 d_2 p_i q_1^2 r^2 r_i v_i - 8c^2 d_1 d_2 p_i r^4 r_i v_i \\
& - 32c^2 d_1 d_2 p_i r^2 r_i v_i^2 v_i - 16c^2 d_1 d_2 p_i r^2 r_i v_i x^2 - 32c^2 d_1 d_2 p_i r_i v_i^2 v_i x^2 - 8c^2 d_1 d_2 p_i r_i v_i x^4 \\
& - 16c^2 d_1 d_2 q_1 r^2 r_i^2 v_i x - 32c^2 d_1 d_2 q_1 r^2 v_i v_i^2 x - 16c^2 d_1 d_2 q_1 r_i^2 v_i x^3 - 32c^2 d_1 d_2 q_1 v_i v_i^2 x^3 - 32c d_1^2 d_2 p_1 r^3 r_i^2 v_i \\
& - 32c d_1^2 d_2 p_1 r^3 v_i v_i^2 - 32c d_1^2 d_2 p_1 r r_i^2 v_i x^2 - 32c d_1^2 d_2 p_1 r v_i v_i^2 x^2 - 32c d_1^2 d_2 q_1 r^2 r_i^2 v_i x - 32c d_1^2 d_2 q_1 r^2 v_i v_i^2 x \\
& - 32c d_1^2 d_2 q_1 r_i^2 v_i x^3 - 32c d_1^2 d_2 q_1 v_i v_i^2 x^3 - 16c d_1^2 d_2 p_i r^4 r_i v_i - 32c d_1^2 d_2 p_i r^2 r_i v_i x^2 - 16c d_1^2 d_2 p_i r_i v_i x^4
\end{aligned}$$

$$\begin{aligned}
& + 4c^3d_1v^2v_i^2x^2 + 8c^2d_1^2r_i^2v^2x^2 + 8c^2d_1^2v^2v_i^2x^2 + 12c^2d_1d_2p_1^2r^2v_i^2 + 48c^2d_1d_2p_1p_i r r_i v v_i + 12c^2d_1d_2p_i^2r_i^2v^2 \\
& + 12c^2d_1d_2q_1^2r^2v_i^2 + 12c^2d_1d_2q_i^2r_i^2v^2 + 2c^2d_1d_2r^4v_i^2 + 8c^2d_1d_2r^2r_i^2v^2 + 16c^2d_1d_2r^2v^2v_i^2 + 4c^2d_1d_2r^2v_i^2x^2 \\
& + 8c^2d_1d_2r_i^2v^2x^2 + 16c^2d_1d_2v^2v_i^2x^2 + 2c^2d_1d_2v_i^2x^4 + 12c^2d_2^2q_i^2r_i^2v^2 + 24cd_1^2d_2p_1^2r^2r_i^2 + 24cd_1^2d_2p_1^2r^2v_i^2 \\
& + 24cd_1^2d_2q_1^2r^2r_i^2 + 24cd_1^2d_2q_1^2r^2v_i^2 + 4cd_1^2d_2r^4r_i^2 + 4cd_1^2d_2r^4v_i^2 + 16cd_1^2d_2r^2r_i^2v^2 + 8cd_1^2d_2r^2r_i^2x^2 \\
& + 16cd_1^2d_2r^2v^2v_i^2 + 8cd_1^2d_2r^2v_i^2x^2 + 16cd_1^2d_2r_i^2v^2x^2 + 4cd_1^2d_2r_i^2x^4 + 16cd_1^2d_2v^2v_i^2x^2 + 4cd_1^2d_2v_i^2x^4 \\
& + 24cd_1d_2^2p_i^2r^2r_i^2 + 24cd_1d_2^2p_i^2r_i^2v^2 + 24cd_1d_2^2q_i^2r^2r_i^2 + 24cd_1d_2^2q_i^2r_i^2v^2 + 4cd_1d_2^2r^4r_i^2 + 8cd_1d_2^2r^4v_i^2 \\
& + 8cd_1d_2^2r^2r_i^2x^2 + 16cd_1d_2^2r^2v_i^2x^2 + 4cd_1d_2^2r_i^2x^4 + 8cd_1d_2^2v_i^2x^4 + 8d_1^2d_2^2r^4r_i^2 + 8d_1^2d_2^2r^4v_i^2 \\
& + 16d_1^2d_2^2r^2r_i^2x^2 + 16d_1^2d_2^2r^2v_i^2x^2 + 8d_1^2d_2^2r_i^2x^4 + 8d_1^2d_2^2v_i^2x^4 - 12c^2d_1d_2p_1rvv_i^2 - 12c^2d_1d_2p_i r_i v^2v_i \\
& - 24cd_1^2d_2p_1rr_i^2v - 24cd_1^2d_2p_1rvv_i^2 - 24cd_1d_2^2p_i r^2r_i v_i - 24cd_1d_2^2p_i r_i v^2v_i + 3c^2d_1d_2v^2v_i^2 \\
& + 6cd_1^2d_2r_i^2v^2 + 6cd_1^2d_2v^2v_i^2 + 6cd_1d_2^2r^2v_i^2 + 6cd_1d_2^2r_i^2v^2 + 12cd_1d_2^2v^2v_i^2 + 12d_1^2d_2^2r^2r_i^2 \\
& + 12d_1^2d_2^2r^2v_i^2 + 12d_1^2d_2^2r_i^2v^2 + 12d_1^2d_2^2v^2v_i^2)
\end{aligned}$$

• 11 × 11

$$\begin{aligned}
& \frac{4}{c^5}(4p_2^2c + 4r^2c + c + 2d_3)(64c^3d_1p_1^2p_i^2r^2r_i^2x^2 + 64c^3d_1p_1^2q_i^2r^2r_i^2x^2 - 64c^3d_1p_1p_i^2q_1r^3r_i^2x \\
& + 64c^3d_1p_1p_i^2q_1rr_i^2x^3 - 64c^3d_1p_1q_1q_i^2r^3r_i^2x + 64c^3d_1p_1q_1q_i^2rr_i^2x^3 + 16c^3d_1p_i^2q_1^4r_i^2 \\
& - 32c^3d_1p_i^2q_1^2r^2r_i^2x^2 + 16c^3d_1p_i^2q_1^2r_i^2x^4 + 16c^3d_1q_1^2q_i^2r^4r_i^2 - 32c^3d_1q_1^2q_i^2r^2r_i^2x^2 + 16c^3d_1q_1^2q_i^2r_i^2x^4 \\
& + 16c^3d_2p_1^2q_i^2r^4r_i^2 + 32c^3d_2p_1^2q_i^2r^2r_i^2x^2 + 16c^3d_2p_1^2q_i^2r_i^2x^4 + 16c^3d_2q_1^2q_i^2r^4r_i^2 + 32c^3d_2q_1^2q_i^2r^2r_i^2x^2 \\
& + 16c^3d_2q_1^2q_i^2r_i^2x^4 + 32c^2d_1d_2p_1^2p_i^2r^4r_i^2 + 64c^2d_1d_2p_1^2p_i^2r^2r_i^2x^2 + 32c^2d_1d_2p_1^2p_i^2r_i^2x^4 \\
& + 32c^2d_1d_2p_1^2q_i^2r^4r_i^2 + 64c^2d_1d_2p_1^2q_i^2r^2r_i^2x^2 + 32c^2d_1d_2p_1^2q_i^2r_i^2x^4 + 32c^2d_1d_2p_i^2q_1^2r^4r_i^2 \\
& + 64c^2d_1d_2p_i^2q_1^2r^2r_i^2x^2 + 32c^2d_1d_2p_i^2q_1^2r_i^2x^4 + 32c^2d_1d_2q_1^2q_i^2r^4r_i^2 + 64c^2d_1d_2q_1^2q_i^2r^2r_i^2x^2 \\
& + 32c^2d_1d_2q_1^2q_i^2r_i^2x^4 - 64c^3d_1p_1p_i^2r^2r_i v_i x^2 - 64c^3d_1p_1p_i^2rr_i^2v x^2 + 64c^3d_1p_1p_i q_1 r^3 r_i v_i x \\
& - 64c^3d_1p_1p_i q_1 rr_i v_i x^3 - 64c^3d_1p_1q_i^2rr_i^2v x^2 + 32c^3d_1p_i^2q_1 r^2 r_i^2 v x - 32c^3d_1p_i^2q_1 r_i^2 v x^3 - 16c^3d_1p_i q_1^2 r^4 r_i v_i \\
& + 32c^3d_1p_i q_1^2 r^2 r_i v_i x^2 - 16c^3d_1p_i q_1^2 r_i v_i x^4 + 32c^3d_1q_1 q_i^2 r^2 r_i^2 v x - 32c^3d_1q_1 q_i^2 r_i^2 v x^3 - 32c^3d_2p_1 q_i^2 r^3 r_i^2 v \\
& - 32c^3d_2p_1 q_i^2 rr_i^2 v x^2 - 32c^3d_2q_1 q_i^2 r^2 r_i^2 v x - 32c^3d_2q_1 q_i^2 r_i^2 v x^3 - 32c^2d_1d_2p_1^2p_i r^4 r_i v_i \\
& - 64c^2d_1d_2p_1^2p_i r^2 r_i v_i x^2 - 32c^2d_1d_2p_1^2p_i r_i v_i x^4 - 64c^2d_1d_2p_1p_i^2r^3r_i^2v - 64c^2d_1d_2p_1p_i^2rr_i^2v x^2 \\
& - 64c^2d_1d_2p_1q_i^2r^3r_i^2v - 64c^2d_1d_2p_1q_i^2rr_i^2v x^2 - 64c^2d_1d_2p_i^2q_1 r^2 r_i^2 v x - 64c^2d_1d_2p_i^2q_1 r_i^2 v x^3 \\
& - 32c^2d_1d_2p_i q_1^2 r^4 r_i v_i - 64c^2d_1d_2p_i q_1^2 r^2 r_i v_i x^2 - 32c^2d_1d_2p_i q_1^2 r_i v_i x^4 - 64c^2d_1d_2q_1 q_i^2 r^2 r_i^2 v x \\
& - 64c^2d_1d_2q_1 q_i^2 r_i^2 v x^3 + 16c^3d_1p_1^2r^2v_i^2x^2 + 64c^3d_1p_1p_i r r_i v v_i x^2 - 16c^3d_1p_1q_1 r^3 v_i^2 x + 16c^3d_1p_1q_1 r v_i^2 x^3 \\
& + 16c^3d_1p_i^2r_i^2v^2x^2 - 32c^3d_1p_i q_1 r^2 r_i v v_i x + 32c^3d_1p_i q_1 r_i v v_i x^3 + 4c^3d_1q_1^4r^4v_i^2 - 8c^3d_1q_1^2r^2v_i^2x^2 \\
& + 4c^3d_1q_1^2v_i^2x^4 + 16c^3d_1q_i^2r_i^2v^2x^2 + 16c^3d_2q_i^2r^2r_i^2v^2 + 16c^3d_2q_i^2r_i^2v^2x^2 + 32c^2d_1^2p_1^2r^2r_i^2x^2 \\
& + 32c^2d_1^2p_1^2r^2v_i^2x^2 - 32c^2d_1^2p_1q_1 r^3 r_i^2 x - 32c^2d_1^2p_1q_1 r^3 v_i^2 x + 32c^2d_1^2p_1q_1 rr_i^2 x^3 + 32c^2d_1^2p_1q_1 r v_i^2 x^3 \\
& + 8c^2d_1^2q_1^4r_i^2 + 8c^2d_1^2q_1^4v_i^2 - 16c^2d_1^2q_1^2r^2r_i^2x^2 - 16c^2d_1^2q_1^2r^2v_i^2x^2 + 8c^2d_1^2q_1^2r_i^2x^4 + 8c^2d_1^2q_1^2v_i^2x^4 \\
& + 48c^2d_1d_2p_1^2p_i^2r^2r_i^2 + 48c^2d_1d_2p_1^2q_i^2r^2r_i^2 + 8c^2d_1d_2p_1^2r^4r_i^2 + 16c^2d_1d_2p_1^2r^4v_i^2 + 16c^2d_1d_2p_1^2r^2r_i^2x^2 \\
& + 32c^2d_1d_2p_1^2r^2v_i^2x^2 + 8c^2d_1d_2p_1^2r_i^2x^4 + 16c^2d_1d_2p_1^2v_i^2x^4 + 64c^2d_1d_2p_1p_i r^3 r_i v v_i + 64c^2d_1d_2p_1p_i r r_i v v_i x^2 \\
& + 48c^2d_1d_2p_i^2q_1^2r^2r_i^2 + 8c^2d_1d_2p_i^2r^4r_i^2 + 32c^2d_1d_2p_i^2r^2r_i^2v^2 + 16c^2d_1d_2p_i^2r^2r_i^2x^2 + 32c^2d_1d_2p_i^2r_i^2v^2x^2 \\
& + 8c^2d_1d_2p_i^2r_i^2x^4 + 64c^2d_1d_2p_i q_1 r^2 r_i v v_i x + 64c^2d_1d_2p_i q_1 r_i v v_i x^3 + 48c^2d_1d_2q_1^2q_i^2r^2r_i^2 + 8c^2d_1d_2q_1^2r^4r_i^2 \\
& + 16c^2d_1d_2q_1^2r^4v_i^2 + 16c^2d_1d_2q_1^2r^2r_i^2x^2 + 32c^2d_1d_2q_1^2r^2v_i^2x^2 + 8c^2d_1d_2q_1^2r_i^2x^4 + 16c^2d_1d_2q_1^2v_i^2x^4 \\
& + 8c^2d_1d_2q_i^2r^4r_i^2 + 32c^2d_1d_2q_i^2r^2r_i^2v^2 + 16c^2d_1d_2q_i^2r^2r_i^2x^2 + 32c^2d_1d_2q_i^2r_i^2v^2x^2 + 8c^2d_1d_2q_i^2r_i^2x^4 \\
& + 8c^2d_2^2q_i^2r^4r_i^2 + 16c^2d_2^2q_i^2r^2r_i^2x^2 + 8c^2d_2^2q_i^2r_i^2x^4 + 16cd_1^2d_2p_1^2r^4r_i^2 + 16cd_1^2d_2p_1^2r^4v_i^2 + 32cd_1^2d_2p_1^2r^2r_i^2x^2
\end{aligned}$$

$$\begin{aligned}
& + 32cd_1^2d_2p_1^2r^2v_i^2x^2 + 16cd_1^2d_2p_1^2r_i^2x^4 + 16cd_1^2d_2p_1^2v_i^2x^4 + 16cd_1^2d_2q_1^2r^4r_i^2 + 16cd_1^2d_2q_1^2r^4v_i^2 \\
& + 32cd_1^2d_2q_1^2r^2r_i^2x^2 + 32cd_1^2d_2q_1^2r^2v_i^2x^2 + 16cd_1^2d_2q_1^2r_i^2x^4 + 16cd_1^2d_2q_1^2v_i^2x^4 + 16cd_1d_2^2p_1^2r^4r_i^2 \\
& + 32cd_1d_2^2p_1^2r^2r_i^2x^2 + 16cd_1d_2^2p_1^2r_i^2x^4 + 16cd_1d_2^2q_1^2r^4r_i^2 + 32cd_1d_2^2q_1^2r^2r_i^2x^2 + 16cd_1d_2^2q_1^2r_i^2x^4 \\
& - 16c^3d_1p_1rvv_i^2x^2 - 16c^3d_1p_1r_i v^2v_i x^2 + 8c^3d_1q_1r^2vv_i^2x - 8c^3d_1q_1vv_i^2x^3 - 32c^2d_1^2p_1rr_i^2vx^2 \\
& - 32c^2d_1^2p_1rvv_i^2x^2 + 16c^2d_1^2q_1r^2r_i^2vx + 16c^2d_1^2q_1r^2vv_i^2x - 16c^2d_1^2q_1r_i^2vx^3 - 16c^2d_1^2q_1vv_i^2x^3 \\
& - 48r^2v_i p_1^2p_i r_i d_2 c^2 d_1 - 48rp_1 p_i^2 vr_i^2 d_2 c^2 d_1 - 48rq_i^2 p_1 vr_i^2 d_2 c^2 d_1 - 16c^2 d_1 d_2 p_1 r^3 r_i^2 v - 32c^2 d_1 d_2 p_1 r^3 vv_i^2 \\
& - 16c^2 d_1 d_2 p_1 rr_i^2 vx^2 - 32c^2 d_1 d_2 p_1 rvv_i^2 x^2 - 48r^2 v_i q_1^2 p_i r_i d_2 c^2 d_1 - 8c^2 d_1 d_2 p_i r^4 r_i v_i - 32c^2 d_1 d_2 p_i r^2 r_i v^2 v_i \\
& - 16c^2 d_1 d_2 p_i r^2 r_i v_i x^2 - 32c^2 d_1 d_2 p_i r_i v^2 v_i x^2 - 8c^2 d_1 d_2 p_i r_i v_i x^4 - 16c^2 d_1 d_2 q_1 r^2 r_i^2 vx - 32c^2 d_1 d_2 q_1 r^2 vv_i^2 x \\
& - 16c^2 d_1 d_2 q_1 r_i^2 vx^3 - 32c^2 d_1 d_2 q_1 vv_i^2 x^3 - 32cd_1^2 d_2 p_1 r^3 r_i^2 v - 32cd_1^2 d_2 p_1 r^3 vv_i^2 - 32cd_1^2 d_2 p_1 rr_i^2 vx^2 \\
& - 32cd_1^2 d_2 p_1 rvv_i^2 x^2 - 32cd_1^2 d_2 q_1 r^2 r_i^2 vx - 32cd_1^2 d_2 q_1 r^2 vv_i^2 x - 32cd_1^2 d_2 q_1 r_i^2 vx^3 - 32cd_1^2 d_2 q_1 vv_i^2 x^3 \\
& - 16cd_1 d_2^2 p_i r^4 r_i v_i - 32cd_1 d_2^2 p_i r^2 r_i v_i x^2 - 16cd_1 d_2^2 p_i r_i v_i x^4 + 4c^3 d_1 v^2 v_i^2 x^2 + 8c^2 d_1^2 r_i^2 v^2 x^2 \\
& + 8c^2 d_1^2 v^2 v_i^2 x^2 + 12r^2 v_i^2 p_1^2 d_2 c^2 d_1 + 48rv_i p_1 p_i vr_i d_2 c^2 d_1 + 12p_i^2 v^2 r_i^2 d_2 c^2 d_1 + 12r^2 v_i^2 q_1^2 d_2 c^2 d_1 \\
& + 12q_i^2 v^2 r_i^2 d_2 c^2 d_1 + 2c^2 d_1 d_2 r^4 v_i^2 + 8c^2 d_1 d_2 r^2 r_i^2 v^2 + 16c^2 d_1 d_2 r^2 v^2 v_i^2 + 4c^2 d_1 d_2 r^2 v_i^2 x^2 + 8c^2 d_1 d_2 r_i^2 v^2 x^2 \\
& + 16c^2 d_1 d_2 v^2 v_i^2 x^2 + 2c^2 d_1 d_2 v_i^2 x^4 + 12c^2 d_2^2 q_i^2 r_i^2 v^2 + 24r^2 p_1^2 r_i^2 d_2 cd_1^2 + 24r^2 v_i^2 p_1^2 d_2 cd_1^2 \\
& + 24r^2 q_1^2 r_i^2 d_2 cd_1^2 + 24r^2 v_i^2 q_1^2 d_2 cd_1^2 + 4cd_1^2 d_2 r^4 r_i^2 + 4cd_1^2 d_2 r^4 v_i^2 + 16cd_1^2 d_2 r^2 r_i^2 v^2 + 8cd_1^2 d_2 r^2 r_i^2 x^2 \\
& + 16cd_1^2 d_2 r^2 v^2 v_i^2 + 8cd_1^2 d_2 r^2 v_i^2 x^2 + 16cd_1^2 d_2 r_i^2 v^2 x^2 + 4cd_1^2 d_2 r_i^2 x^4 + 16cd_1^2 d_2 v^2 v_i^2 x^2 + 4cd_1^2 d_2 v_i^2 x^4 \\
& + 24p_i^2 r^2 r_i^2 d_2 cd_1 + 24cd_1 d_2^2 p_i^2 r_i^2 v^2 + 24q_i^2 r^2 r_i^2 d_2 cd_1 + 24cd_1 d_2^2 q_i^2 r_i^2 v^2 + 4cd_1 d_2^2 r^4 r_i^2 + 8cd_1 d_2^2 r^4 v_i^2 \\
& + 8cd_1 d_2^2 r^2 r_i^2 x^2 + 16cd_1 d_2^2 r^2 v_i^2 x^2 + 4cd_1 d_2^2 r_i^2 x^4 + 8cd_1 d_2^2 v_i^2 x^4 + 8d_1^2 d_2^2 r^4 r_i^2 + 8d_1^2 d_2^2 r^4 v_i^2 + 16d_1^2 d_2^2 r^2 r_i^2 x^2 \\
& + 16d_1^2 d_2^2 r^2 v_i^2 x^2 + 8d_1^2 d_2^2 r_i^2 x^4 + 8d_1^2 d_2^2 v_i^2 x^4 - 12rv_i^2 p_1 v d_2 c^2 d_1 - 12p_i v_i v^2 r_i d_2 c^2 d_1 - 24rp_1 vr_i^2 d_2 cd_1^2 \\
& - 24rv_i^2 p_1 v d_2 cd_1^2 - 24r^2 v_i p_i r_i d_2^2 cd_1 - 24cd_1 d_2^2 p_i r_i v^2 v_i + 3v_i^2 v^2 d_2 c^2 d_1 + 6v^2 r_i^2 d_2 cd_1^2 + 6v_i^2 v^2 d_2 cd_1^2 \\
& + 6r^2 v_i^2 d_2^2 cd_1 + 6cd_1 d_2^2 r_i^2 v^2 + 12cd_1 d_2^2 v^2 v_i^2 + 12r^2 r_i^2 d_2^2 d_1^2 + 12r^2 v_i^2 d_2^2 d_1^2 + 12d_1^2 d_2^2 r_i^2 v^2 + 12d_1^2 d_2^2 v^2 v_i^2)
\end{aligned}$$

• 12×12

$$\begin{aligned}
& \frac{4}{c^6} (64c^3 d_1 p_1^2 p_i^2 r^2 r_i^2 x^2 + 64c^3 d_1 p_1^2 q_i^2 r^2 r_i^2 x^2 - 64c^3 d_1 p_1 p_i^2 q_1 r^3 r_i^2 x + 64c^3 d_1 p_1 p_i^2 q_1 rr_i^2 x^3 \\
& - 64c^3 d_1 p_1 q_1 q_i^2 r^3 r_i^2 x + 64c^3 d_1 p_1 q_1 q_i^2 rr_i^2 x^3 + 16c^3 d_1 p_i^2 q_1^2 r^4 r_i^2 - 32c^3 d_1 p_i^2 q_1^2 r^2 r_i^2 x^2 + 16c^3 d_1 p_i^2 q_1^2 r_i^2 x^4 \\
& + 16c^3 d_1 q_1^2 q_i^2 r^4 r_i^2 - 32c^3 d_1 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_1 q_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 p_1^2 q_i^2 r^4 r_i^2 + 32c^3 d_2 p_1^2 q_i^2 r^2 r_i^2 x^2 \\
& + 16c^3 d_2 p_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 q_1^2 q_i^2 r^4 r_i^2 + 32c^3 d_2 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_2 q_1^2 q_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_1^2 p_i^2 r^4 r_i^2 \\
& + 64c^2 d_1 d_2 p_1^2 p_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_1^2 p_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_1^2 q_i^2 r^4 r_i^2 + 64c^2 d_1 d_2 p_1^2 q_i^2 r^2 r_i^2 x^2 \\
& + 32c^2 d_1 d_2 p_1^2 q_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_i^2 q_1^2 r^4 r_i^2 + 64c^2 d_1 d_2 p_i^2 q_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_i^2 q_1^2 r_i^2 x^4 \\
& + 32c^2 d_1 d_2 q_1^2 q_i^2 r^4 r_i^2 + 64c^2 d_1 d_2 q_1^2 q_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_1^2 q_i^2 r_i^2 x^4 - 64c^3 d_1 p_1^2 p_i r^2 r_i v_i x^2 \\
& - 64c^3 d_1 p_1 p_i^2 rr_i^2 vx^2 + 64c^3 d_1 p_1 p_i q_1 r^3 r_i v_i x - 64c^3 d_1 p_1 p_i q_1 rr_i v_i x^3 - 64c^3 d_1 p_1 q_i^2 rr_i^2 vx^2 \\
& + 32c^3 d_1 p_i^2 q_1 r^2 r_i^2 vx - 32c^3 d_1 p_i^2 q_1 r_i^2 vx^3 - 16c^3 d_1 p_i q_1^2 r^4 r_i v_i + 32c^3 d_1 p_i q_1^2 r^2 r_i v_i x^2 - 16c^3 d_1 p_i q_1^2 r_i v_i x^4 \\
& + 32c^3 d_1 q_1 q_i^2 r^2 r_i^2 vx - 32c^3 d_1 q_1 q_i^2 r_i^2 vx^3 - 32c^3 d_2 p_1 q_i^2 r^3 r_i^2 v - 32c^3 d_2 p_1 q_i^2 rr_i^2 vx^2 - 32c^3 d_2 q_1 q_i^2 r^2 r_i^2 vx \\
& - 32c^3 d_2 q_1 q_i^2 r_i^2 vx^3 - 32c^2 d_1 d_2 p_1^2 p_i r^4 r_i v_i - 64c^2 d_1 d_2 p_1^2 p_i r^2 r_i v_i x^2 - 32c^2 d_1 d_2 p_1^2 p_i r_i v_i x^4 \\
& - 64c^2 d_1 d_2 p_1 p_i^2 r^3 r_i^2 v - 64c^2 d_1 d_2 p_1 p_i^2 rr_i^2 vx^2 - 64c^2 d_1 d_2 p_1 q_i^2 r^3 r_i^2 v - 64c^2 d_1 d_2 p_1 q_i^2 rr_i^2 vx^2 \\
& - 64c^2 d_1 d_2 p_i^2 q_1 r^2 r_i^2 vx - 64c^2 d_1 d_2 p_i^2 q_1 r_i^2 vx^3 - 32c^2 d_1 d_2 p_i q_1^2 r^4 r_i v_i - 64c^2 d_1 d_2 p_i q_1^2 r^2 r_i v_i x^2 \\
& - 32c^2 d_1 d_2 p_i q_1^2 r_i v_i x^4 - 64c^2 d_1 d_2 q_1 q_i^2 r^2 r_i^2 vx - 64c^2 d_1 d_2 q_1 q_i^2 r_i^2 vx^3 + 16c^3 d_1 p_1^2 r^2 v_i^2 x^2 \\
& + 64c^3 d_1 p_1 p_i rr_i vv_i x^2 - 16c^3 d_1 p_1 q_1 r^3 v_i^2 x + 16c^3 d_1 p_1 q_1 rv_i^2 x^3 + 16c^3 d_1 p_i^2 r_i^2 v^2 x^2 \\
& - 32c^3 d_1 p_i q_1 r^2 r_i vv_i x + 32c^3 d_1 p_i q_1 r_i vv_i x^3 + 4c^3 d_1 q_1^2 r^4 v_i^2 - 8c^3 d_1 q_1^2 r^2 v_i^2 x^2 + 4c^3 d_1 q_1^2 v_i^2 x^4)
\end{aligned}$$

$$\begin{aligned}
& + 16c^3 d_1 q_i^2 r_i^2 v^2 x^2 + 16c^3 d_2 q_i^2 r^2 r_i^2 v^2 + 16c^3 d_2 q_i^2 r_i^2 v^2 x^2 + 32c^2 d_1^2 p_1^2 r^2 r_i^2 x^2 + 32c^2 d_1^2 p_1^2 r^2 v_i^2 x^2 \\
& - 32c^2 d_1^2 p_1 q_1 r^3 r_i^2 x - 32c^2 d_1^2 p_1 q_1 r^3 v_i^2 x + 32c^2 d_1^2 p_1 q_1 r r_i^2 x^3 + 32c^2 d_1^2 p_1 q_1 r v_i^2 x^3 + 8c^2 d_1^2 q_1^2 r^4 r_i^2 \\
& + 8c^2 d_1^2 q_1^2 r^4 v_i^2 - 16c^2 d_1^2 q_1^2 r^2 r_i^2 x^2 - 16c^2 d_1^2 q_1^2 r^2 v_i^2 x^2 + 8c^2 d_1^2 q_1^2 r_i^2 x^4 + 8c^2 d_1^2 q_1^2 v_i^2 x^4 + 48c^2 d_1 d_2 p_1^2 p_i^2 r^2 r_i^2 \\
& + 48c^2 d_1 d_2 p_1^2 q_i^2 r^2 r_i^2 + 8c^2 d_1 d_2 p_1^2 r^4 r_i^2 + 16c^2 d_1 d_2 p_1^2 r^4 v_i^2 + 16c^2 d_1 d_2 p_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_1^2 r^2 v_i^2 x^2 \\
& + 8c^2 d_1 d_2 p_1^2 r_i^2 x^4 + 16c^2 d_1 d_2 p_1^2 v_i^2 x^4 + 64c^2 d_1 d_2 p_1 p_i r^3 r_i v v_i + 64c^2 d_1 d_2 p_1 p_i r r_i v v_i x^2 \\
& + 48c^2 d_1 d_2 p_i^2 q_1^2 r^2 r_i^2 + 8c^2 d_1 d_2 p_i^2 r^4 r_i^2 + 32c^2 d_1 d_2 p_i^2 r^2 r_i^2 v^2 + 16c^2 d_1 d_2 p_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 p_i^2 r_i^2 v^2 x^2 \\
& + 8c^2 d_1 d_2 p_i^2 r_i^2 x^4 + 64c^2 d_1 d_2 p_i q_1 r^2 r_i v v_i x + 64c^2 d_1 d_2 p_i q_1 r_i v v_i x^3 + 48c^2 d_1 d_2 q_1^2 q_i^2 r^2 r_i^2 + 8c^2 d_1 d_2 q_1^2 r^4 r_i^2 \\
& + 16c^2 d_1 d_2 q_1^2 r^4 v_i^2 + 16c^2 d_1 d_2 q_1^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_1^2 r^2 v_i^2 x^2 + 8c^2 d_1 d_2 q_1^2 r_i^2 x^4 + 16c^2 d_1 d_2 q_1^2 v_i^2 x^4 \\
& + 8c^2 d_1 d_2 q_i^2 r^4 r_i^2 + 32c^2 d_1 d_2 q_i^2 r^2 r_i^2 v^2 + 16c^2 d_1 d_2 q_i^2 r^2 r_i^2 x^2 + 32c^2 d_1 d_2 q_i^2 r_i^2 v^2 x^2 + 8c^2 d_1 d_2 q_i^2 r_i^2 x^4 \\
& + 8c^2 d_2^2 q_i^2 r^4 r_i^2 + 16c^2 d_2^2 q_i^2 r^2 r_i^2 x^2 + 8c^2 d_2^2 q_i^2 r_i^2 x^4 + 16c d_1^2 d_2 p_1^2 r^4 r_i^2 + 16c d_1^2 d_2 p_1^2 r^4 v_i^2 + 32c d_1^2 d_2 p_1^2 r^2 r_i^2 x^2 \\
& + 32c d_1^2 d_2 p_1^2 r^2 v_i^2 x^2 + 16c d_1^2 d_2 p_1^2 r_i^2 x^4 + 16c d_1^2 d_2 p_1^2 v_i^2 x^4 + 16c d_1^2 d_2 q_1^2 r^4 r_i^2 + 16c d_1^2 d_2 q_1^2 r^4 v_i^2 \\
& + 32c d_1^2 d_2 q_1^2 r^2 r_i^2 x^2 + 32c d_1^2 d_2 q_1^2 r^2 v_i^2 x^2 + 16c d_1^2 d_2 q_1^2 r_i^2 x^4 + 16c d_1^2 d_2 q_1^2 v_i^2 x^4 + 16c d_1 d_2^2 p_i^2 r^4 r_i^2 \\
& + 32c d_1 d_2^2 p_i^2 r^2 r_i^2 x^2 + 16c d_1 d_2^2 p_i^2 r_i^2 x^4 + 16c d_1 d_2^2 q_i^2 r^4 r_i^2 + 32c d_1 d_2^2 q_i^2 r^2 r_i^2 x^2 + 16c d_1 d_2^2 q_i^2 r_i^2 x^4 \\
& - 16c^3 d_1 p_1 r v v_i^2 x^2 - 16c^3 d_1 p_i r v^2 v_i x^2 + 8c^3 d_1 q_1 r^2 v v_i^2 x - 8c^3 d_1 q_1 v v_i^2 x^3 - 32c^2 d_1^2 p_1 r r_i^2 v x^2 \\
& - 32c^2 d_1^2 p_1 r v v_i^2 x^2 + 16c^2 d_1^2 q_1 r^2 r_i^2 v x + 16c^2 d_1^2 q_1 r^2 v v_i^2 x - 16c^2 d_1^2 q_1 r_i^2 v x^3 - 16c^2 d_1^2 q_1 v v_i^2 x^3 \\
& - 48c^2 d_1 d_2 p_1^2 p_i r^2 r_i v_i - 48c^2 d_1 d_2 p_1 p_i^2 r r_i^2 v - 48c^2 d_1 d_2 p_1 q_i^2 r r_i^2 v - 16c^2 d_1 d_2 p_1 r^3 r_i^2 v - 32c^2 d_1 d_2 p_1 r^3 v v_i^2 \\
& - 16c^2 d_1 d_2 p_1 r r_i^2 v x^2 - 32c^2 d_1 d_2 p_1 r v v_i^2 x^2 - 48c^2 d_1 d_2 p_i q_1^2 r^2 r_i v_i - 8c^2 d_1 d_2 p_i r^4 r_i v_i \\
& - 32c^2 d_1 d_2 p_i r^2 r_i v^2 v_i - 16c^2 d_1 d_2 p_i r^2 r_i v_i x^2 - 32c^2 d_1 d_2 p_i r_i v^2 v_i x^2 - 8c^2 d_1 d_2 p_i r_i v_i x^4 \\
& - 16c^2 d_1 d_2 q_1 r^2 r_i^2 v x - 32c^2 d_1 d_2 q_1 r^2 v v_i^2 x - 16c^2 d_1 d_2 q_1 r_i^2 v x^3 - 32c^2 d_1 d_2 q_1 v v_i^2 x^3 - 32c d_1^2 d_2 p_1 r^3 r_i^2 v \\
& - 32c d_1^2 d_2 p_1 r^3 v v_i^2 - 32c d_1^2 d_2 p_1 r r_i^2 v x^2 - 32c d_1^2 d_2 p_1 r v v_i^2 x^2 - 32c d_1^2 d_2 q_1 r^2 r_i^2 v x - 32c d_1^2 d_2 q_1 r^2 v v_i^2 x \\
& - 32c d_1^2 d_2 q_1 r_i^2 v x^3 - 32c d_1^2 d_2 q_1 v v_i^2 x^3 - 16c d_1 d_2^2 p_i r^4 r_i v_i - 32c d_1 d_2^2 p_i r^2 r_i v_i x^2 - 16c d_1 d_2^2 p_i r_i v_i x^4 \\
& + 4c^3 d_1 v^2 v_i^2 x^2 + 8c^2 d_1^2 r_i^2 v^2 x^2 + 8c^2 d_1^2 v^2 v_i^2 x^2 + 12c^2 d_1 d_2 p_1^2 r^2 v_i^2 + 48c^2 d_1 d_2 p_1 p_i r r_i v v_i + 12c^2 d_1 d_2 p_i^2 r_i^2 v^2 \\
& + 12c^2 d_1 d_2 q_1^2 r^2 v_i^2 + 12c^2 d_1 d_2 q_i^2 r_i^2 v^2 + 2c^2 d_1 d_2 r^4 v_i^2 + 8c^2 d_1 d_2 r^2 r_i^2 v^2 + 16c^2 d_1 d_2 r^2 v^2 v_i^2 + 4c^2 d_1 d_2 r^2 v_i^2 x^2 \\
& + 8c^2 d_1 d_2 r_i^2 v^2 x^2 + 16c^2 d_1 d_2 v^2 v_i^2 x^2 + 2c^2 d_1 d_2 v_i^2 x^4 + 12c^2 d_2^2 q_i^2 r_i^2 v^2 + 24c d_1^2 d_2 p_1^2 r^2 r_i^2 + 24c d_1^2 d_2 p_1^2 r^2 v_i^2 \\
& + 24c d_1^2 d_2 q_1^2 r^2 r_i^2 + 24c d_1^2 d_2 q_1^2 r^2 v_i^2 + 4c d_1^2 d_2 r^4 r_i^2 + 4c d_1^2 d_2 r^4 v_i^2 + 16c d_1^2 d_2 r^2 r_i^2 v^2 + 8c d_1^2 d_2 r^2 r_i^2 x^2 \\
& + 16c d_1^2 d_2 r^2 v^2 v_i^2 + 8c d_1^2 d_2 r^2 v_i^2 x^2 + 16c d_1^2 d_2 r_i^2 v^2 x^2 + 4c d_1^2 d_2 r_i^2 x^4 + 16c d_1^2 d_2 v^2 v_i^2 x^2 + 4c d_1^2 d_2 v_i^2 x^4 \\
& + 24c d_1 d_2^2 p_i^2 r^2 r_i^2 + 24c d_1 d_2^2 p_i^2 r_i^2 v^2 + 24c d_1 d_2^2 q_i^2 r^2 r_i^2 + 24c d_1 d_2^2 q_i^2 r_i^2 v^2 + 4c d_1 d_2^2 r^4 r_i^2 + 8c d_1 d_2^2 r^4 v_i^2 \\
& + 8c d_1 d_2^2 r^2 r_i^2 x^2 + 16c d_1 d_2^2 r^2 v_i^2 x^2 + 4c d_1 d_2^2 r_i^2 x^4 + 8c d_1 d_2^2 v_i^2 x^4 + 8d_1^2 d_2^2 r^4 r_i^2 + 8d_1^2 d_2^2 r^4 v_i^2 \\
& + 16d_1^2 d_2^2 r^2 r_i^2 x^2 + 16d_1^2 d_2^2 r^2 v_i^2 x^2 + 8d_1^2 d_2^2 r_i^2 x^4 + 8d_1^2 d_2^2 v_i^2 x^4 - 12c^2 d_1 d_2 p_1 r v v_i^2 - 12c^2 d_1 d_2 p_i r_i v^2 v_i \\
& - 24c d_1^2 d_2 p_1 r r_i^2 v - 24c d_1^2 d_2 p_1 r v v_i^2 - 24c d_1 d_2^2 p_i r^2 r_i v_i - 24c d_1 d_2^2 p_i r_i v^2 v_i + 3c^2 d_1 d_2 v^2 v_i^2 \\
& + 6c d_1^2 d_2 r^2 v^2 + 6c d_1^2 d_2 v^2 v_i^2 + 6c d_1 d_2^2 r^2 v_i^2 + 6c d_1 d_2^2 r_i^2 v^2 + 12c d_1 d_2^2 v^2 v_i^2 + 12d_1^2 d_2^2 r^2 r_i^2 \\
& + 12d_1^2 d_2^2 r^2 v_i^2 + 12d_1^2 d_2^2 v^2 v_i^2)(16c^2 p_2^2 x^2 - 32c^2 p_2 q_2 r x + 16c^2 q_2^2 r^2 + 4c^2 p_2^2 + 4c^2 q_2^2 \\
& + 4c^2 r^2 + 4c^2 x^2 + 8c d_3 p_2^2 + 8c d_3 q_2^2 + 8c d_3 r^2 + 8c d_3 x^2 + c^2 + 4c d_3 + 4d_3^2)
\end{aligned}$$

• 13×13

$$\begin{aligned}
& \frac{4}{c^6} (64c^3 d_1 p_1^2 p_i^2 r^2 r_i^2 x^2 + 64c^3 d_1 p_1^2 q_i^2 r^2 r_i^2 x^2 - 64c^3 d_1 p_1 p_i^2 q_1 r^3 r_i^2 x + 64c^3 d_1 p_1 p_i^2 q_1 r r_i^2 x^3 \\
& - 64c^3 d_1 p_1 q_1 q_i^2 r^3 r_i^2 x + 64c^3 d_1 p_1 q_1 q_i^2 r r_i^2 x^3 + 16c^3 d_1 p_i^2 q_1^2 r^4 r_i^2 - 32c^3 d_1 p_i^2 q_1^2 r^2 r_i^2 x^2 + 16c^3 d_1 p_i^2 q_1^2 r_i^2 x^4 \\
& + 16c^3 d_1 q_1^2 q_i^2 r^4 r_i^2 - 32c^3 d_1 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_1 q_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 p_1^2 q_i^2 r^4 r_i^2 + 32c^3 d_2 p_1^2 q_i^2 r^2 r_i^2 x^2 \\
& + 16c^3 d_2 p_1^2 q_i^2 r_i^2 x^4 + 16c^3 d_2 q_1^2 q_i^2 r^2 r_i^2 x^2 + 16c^3 d_2 q_1^2 q_i^2 r_i^2 x^4 + 32c^2 d_1 d_2 p_1^2 p_i^2 r^4 r_i^2
\end{aligned}$$

$$\begin{aligned}
& + 64c^2d_1d_2p_1^2p_i^2r^2r_i^2x^2 + 32c^2d_1d_2p_1^2p_i^2r_i^2x^4 + 32c^2d_1d_2p_1^2q_i^2r^4r_i^2 + 64c^2d_1d_2p_1^2q_i^2r^2r_i^2x^2 \\
& + 32c^2d_1d_2p_1^2q_i^2r_i^2x^4 + 32c^2d_1d_2p_i^2q_1^2r^4r_i^2 + 64c^2d_1d_2p_i^2q_1^2r^2r_i^2x^2 + 32c^2d_1d_2p_i^2q_1^2r_i^2x^4 \\
& + 32c^2d_1d_2q_1^2q_i^2r^4r_i^2 + 64c^2d_1d_2q_1^2q_i^2r^2r_i^2x^2 + 32c^2d_1d_2q_1^2q_i^2r_i^2x^4 - 64c^3d_1p_1p_i^2r^2r_i^2v_i^2x^2 \\
& - 64c^3d_1p_1p_i^2rr_i^2vx^2 + 64c^3d_1p_1p_iq_1r^3r_i^2v_i^2x - 64c^3d_1p_1p_iq_1rr_i^2v_i^2x^3 - 64c^3d_1p_1q_i^2rr_i^2v_i^2x^2 \\
& + 32c^3d_1p_i^2q_1r^2r_i^2vx - 32c^3d_1p_i^2q_1r_i^2vx^3 - 16c^3d_1p_iq_1^2r^4r_i^2v_i^2 + 32c^3d_1p_iq_1^2r^2r_i^2v_i^2x^2 - 16c^3d_1p_iq_1^2r_i^2v_i^2x^4 \\
& + 32c^3d_1q_1q_i^2r^2r_i^2vx - 32c^3d_1q_1q_i^2r_i^2vx^3 - 32c^3d_2p_1q_i^2r^3r_i^2v - 32c^3d_2p_1q_i^2rr_i^2vx^2 - 32c^3d_2q_1q_i^2r^2r_i^2vx \\
& - 32c^3d_2q_1q_i^2r_i^2vx^3 - 32c^2d_1d_2p_1^2p_i^2r^4r_i^2v_i^2 - 64c^2d_1d_2p_1^2p_i^2r_i^2v_i^2x^2 - 32c^2d_1d_2p_1^2p_i^2r_i^2v_i^2x^4 \\
& - 64c^2d_1d_2p_1p_i^2r^3r_i^2v - 64c^2d_1d_2p_1p_i^2rr_i^2vx^2 - 64c^2d_1d_2p_1q_i^2r^3r_i^2v - 64c^2d_1d_2p_1q_i^2rr_i^2vx^2 \\
& - 64c^2d_1d_2p_i^2q_1r^2r_i^2vx - 64c^2d_1d_2p_i^2q_1r_i^2vx^3 - 32c^2d_1d_2p_iq_1^2r^4r_i^2v_i^2 - 64c^2d_1d_2p_iq_1^2r^2r_i^2v_i^2x^2 \\
& - 32c^2d_1d_2p_iq_1^2r_i^2v_i^2x^4 - 64c^2d_1d_2q_1q_i^2r^2r_i^2vx - 64c^2d_1d_2q_1q_i^2r_i^2vx^3 + 16c^3d_1p_1^2r^2v_i^2x^2 \\
& + 64c^3d_1p_1p_i^2rr_i^2vv_i^2x^2 - 16c^3d_1p_1q_1r^3v_i^2x + 16c^3d_1p_1q_1rv_i^2x^3 + 16c^3d_1p_i^2r_i^2v_i^2x^2 \\
& - 32c^3d_1p_iq_1r^2r_i^2vv_i^2x + 32c^3d_1p_iq_1r_i^2vv_i^2x^3 + 4c^3d_1q_1^2r^4v_i^2 - 8c^3d_1q_1^2r^2v_i^2x^2 + 4c^3d_1q_1^2v_i^2x^4 \\
& + 16c^3d_1q_i^2r_i^2v_i^2x^2 + 16c^3d_2q_i^2r^2r_i^2v^2 + 16c^3d_2q_i^2r_i^2v^2x^2 + 32c^2d_1^2p_1^2r^2r_i^2x^2 + 32c^2d_1^2p_1^2r_i^2v_i^2x^2 \\
& - 32c^2d_1^2p_1q_1r^3r_i^2x - 32c^2d_1^2p_1q_1r^3v_i^2x + 32c^2d_1^2p_1q_1rr_i^2x^3 + 32c^2d_1^2p_1q_1rv_i^2x^3 + 8c^2d_1^2q_1^2r^4r_i^2 \\
& + 8c^2d_1^2q_1^2r^4v_i^2 - 16c^2d_1^2q_1^2r^2r_i^2x^2 - 16c^2d_1^2q_1^2r^2v_i^2x^2 + 8c^2d_1^2q_1^2r_i^2x^4 + 8c^2d_1^2q_1^2v_i^2x^4 + 48c^2d_1d_2p_1^2p_i^2r^2r_i^2 \\
& + 48c^2d_1d_2p_1^2q_i^2r^2r_i^2 + 8c^2d_1d_2p_1^2r^4r_i^2 + 16c^2d_1d_2p_1^2r^4v_i^2 + 16c^2d_1d_2p_1^2r^2r_i^2x^2 + 32c^2d_1d_2p_1^2r_i^2v_i^2x^2 \\
& + 8c^2d_1d_2p_1^2r_i^2x^4 + 16c^2d_1d_2p_1^2v_i^2x^4 + 64c^2d_1d_2p_1p_i^2r^3r_i^2vv_i^2 + 64c^2d_1d_2p_1p_i^2rr_i^2vv_i^2x^2 \\
& + 48c^2d_1d_2p_i^2q_1^2r^2r_i^2 + 8c^2d_1d_2p_i^2r^4r_i^2 + 32c^2d_1d_2p_i^2r^2r_i^2v^2 + 16c^2d_1d_2p_i^2r^2r_i^2x^2 + 32c^2d_1d_2p_i^2r_i^2v^2x^2 \\
& + 8c^2d_1d_2p_i^2r_i^2x^4 + 64c^2d_1d_2p_iq_1r^2r_i^2vv_i^2 + 64c^2d_1d_2p_iq_1r_i^2vv_i^2x^3 + 48c^2d_1d_2q_1^2q_i^2r^2r_i^2 + 8c^2d_1d_2q_1^2r^4r_i^2 \\
& + 16c^2d_1d_2q_1^2r^4v_i^2 + 16c^2d_1d_2q_1^2r^2r_i^2x^2 + 32c^2d_1d_2q_1^2r^2v_i^2x^2 + 8c^2d_1d_2q_1^2r_i^2x^4 + 16c^2d_1d_2q_1^2v_i^2x^4 \\
& + 8c^2d_1d_2q_i^2r^4r_i^2 + 32c^2d_1d_2q_i^2r^2r_i^2v^2 + 16c^2d_1d_2q_i^2r^2r_i^2x^2 + 32c^2d_1d_2q_i^2r_i^2v^2x^2 + 8c^2d_1d_2q_i^2r_i^2x^4 \\
& + 8c^2d_2^2q_i^2r^4r_i^2 + 16c^2d_2^2q_i^2r^2r_i^2x^2 + 8c^2d_2^2q_i^2r_i^2x^4 + 16cd_1^2d_2p_1^2r^4r_i^2 + 16cd_1^2d_2p_1^2r^4v_i^2 + 32cd_1^2d_2p_1^2r^2r_i^2x^2 \\
& + 32cd_1^2d_2p_1^2r_i^2v_i^2x^2 + 16cd_1^2d_2p_1^2r_i^2x^4 + 16cd_1^2d_2p_1^2v_i^2x^4 + 16cd_1^2d_2q_1^2r^4r_i^2 + 16cd_1^2d_2q_1^2r^4v_i^2 \\
& + 32cd_1^2d_2q_1^2r^2r_i^2x^2 + 32cd_1^2d_2q_1^2r_i^2v_i^2x^2 + 16cd_1^2d_2q_1^2r_i^2x^4 + 16cd_1^2d_2q_1^2v_i^2x^4 + 16cd_1d_2^2p_i^2r^4r_i^2 \\
& + 32cd_1d_2^2p_i^2r^2r_i^2x^2 + 16cd_1d_2^2p_i^2r_i^2x^4 + 16cd_1d_2^2q_i^2r^4r_i^2 + 32cd_1d_2^2q_i^2r^2r_i^2x^2 + 16cd_1d_2^2q_i^2r_i^2x^4 \\
& - 16c^3d_1p_1rvv_i^2x^2 - 16c^3d_1p_i^2r_i^2v_i^2x^2 + 8c^3d_1q_1r^2vv_i^2x - 8c^3d_1q_1vv_i^2x^3 - 32c^2d_1^2p_1rr_i^2vx^2 \\
& - 32c^2d_1^2p_1rvv_i^2x^2 + 16c^2d_1^2q_1r^2r_i^2vx + 16c^2d_1^2q_1r^2vv_i^2x - 16c^2d_1^2q_1r_i^2vx^3 - 16c^2d_1^2q_1vv_i^2x^3 \\
& - 48c^2d_1d_2p_1^2p_i^2r^2r_i^2v_i^2 - 48c^2d_1d_2p_1p_i^2rr_i^2v - 48c^2d_1d_2p_1q_i^2rr_i^2v - 16c^2d_1d_2p_1r^3r_i^2v - 32c^2d_1d_2p_1r^3vv_i^2 \\
& - 16c^2d_1d_2p_1rr_i^2vx^2 - 32c^2d_1d_2p_1rvv_i^2x^2 - 48c^2d_1d_2p_iq_1^2r^2r_i^2v_i^2 - 8c^2d_1d_2p_i^2r^4r_i^2v_i^2 \\
& - 32c^2d_1d_2p_i^2r_i^2v_i^2x^2 - 16c^2d_1d_2p_i^2r_i^2v_i^2x^4 - 32c^2d_1d_2p_i^2r_i^2v_i^2x^2 - 8c^2d_1d_2p_i^2r_i^2v_i^2x^4 \\
& - 16c^2d_1d_2q_1r^2r_i^2vx - 32c^2d_1d_2q_1r^2vv_i^2x - 16c^2d_1d_2q_1r_i^2vx^3 - 32c^2d_1d_2q_1vv_i^2x^3 - 32cd_1^2d_2p_1r^3r_i^2v \\
& - 32cd_1^2d_2p_1r^3vv_i^2 - 32cd_1^2d_2p_1rr_i^2vx^2 - 32cd_1^2d_2p_1rvv_i^2x^2 - 32cd_1^2d_2q_1r^2r_i^2vx - 32cd_1^2d_2q_1r^2vv_i^2x \\
& - 32cd_1^2d_2q_1r_i^2vx^3 - 32cd_1^2d_2q_1vv_i^2x^3 - 16cd_1d_2^2p_i^2r^4r_i^2v_i^2 - 32cd_1d_2^2p_i^2r_i^2v_i^2x^2 - 16cd_1d_2^2p_i^2r_i^2v_i^2x^4 \\
& + 4c^3d_1v^2v_i^2x^2 + 8c^2d_1^2r_i^2v^2x^2 + 8c^2d_1^2v^2v_i^2x^2 + 12c^2d_1d_2p_1^2r^2v_i^2 + 48c^2d_1d_2p_1p_i^2rr_i^2vv_i^2 + 12c^2d_1d_2p_i^2r_i^2v^2 \\
& + 12c^2d_1d_2q_1^2r^2v_i^2 + 12c^2d_1d_2q_i^2r_i^2v^2 + 2c^2d_1d_2r^4v_i^2 + 8c^2d_1d_2r^2r_i^2v^2 + 16c^2d_1d_2r^2v^2v_i^2 + 4c^2d_1d_2r^2v_i^2x^2 \\
& + 8c^2d_1d_2r_i^2v^2x^2 + 16c^2d_1d_2v^2v_i^2x^2 + 2c^2d_1d_2v_i^2x^4 + 12c^2d_2^2q_i^2r_i^2v^2 + 24cd_1^2d_2p_1^2r^2r_i^2 + 24cd_1^2d_2p_1^2r_i^2v_i^2 \\
& + 24cd_1^2d_2q_1^2r^2r_i^2 + 24cd_1^2d_2q_1^2r_i^2v_i^2 + 4cd_1^2d_2r^4r_i^2 + 4cd_1^2d_2r^4v_i^2 + 16cd_1^2d_2r^2r_i^2v^2 + 8cd_1^2d_2r^2r_i^2x^2 \\
& + 16cd_1^2d_2r^2v^2v_i^2 + 8cd_1^2d_2r^2v_i^2x^2 + 16cd_1^2d_2r_i^2v^2x^2 + 4cd_1^2d_2r_i^2x^4 + 16cd_1^2d_2v^2v_i^2x^2 + 4cd_1^2d_2v_i^2x^4 \\
& + 24cd_1d_2^2p_i^2r^2r_i^2 + 24cd_1d_2^2p_i^2r_i^2v^2 + 24cd_1d_2^2q_i^2r^2r_i^2 + 24cd_1d_2^2q_i^2r_i^2v^2 + 4cd_1d_2^2r^4r_i^2 + 8cd_1d_2^2r^4v_i^2
\end{aligned}$$

$$\begin{aligned}
& + 8cd_1d_2^2r_i^2x^2 + 16cd_1d_2^2r_i^2v_i^2x^2 + 4cd_1d_2^2r_i^2x^4 + 8cd_1d_2^2v_i^2x^4 + 8d_1^2d_2^2r_i^4r_i^2 + 8d_1^2d_2^2r_i^4v_i^2 \\
& + 16d_1^2d_2^2r_i^2r_i^2x^2 + 16d_1^2d_2^2r_i^2v_i^2x^2 + 8d_1^2d_2^2r_i^2x^4 + 8d_1^2d_2^2v_i^2x^4 - 12c^2d_1d_2p_1rvv_i^2 - 12c^2d_1d_2p_1r_i^2v_i^2v_i \\
& - 24cd_1^2d_2p_1rr_i^2v - 24cd_1^2d_2p_1rvv_i^2 - 24cd_1d_2^2p_1r_i^2r_i^2v_i - 24cd_1d_2^2p_1r_i^2v_i^2v_i + 3c^2d_1d_2v_i^2v_i^2 \\
& + 6cd_1^2d_2r_i^2v_i^2 + 6cd_1^2d_2v_i^2v_i^2 + 6cd_1d_2^2r_i^2v_i^2 + 6cd_1d_2^2r_i^2v_i^2 + 12cd_1d_2^2v_i^2v_i^2 + 12d_1^2d_2^2r_i^2r_i^2 \\
& + 12d_1^2d_2^2r_i^2v_i^2 + 12d_1^2d_2^2r_i^2v_i^2 + 12d_1^2d_2^2v_i^2v_i^2)(4c^2p_2^2 + 4c^2q_2^2 + 8cd_3p_2^2 + 8cd_3q_2^2 + c^2 + 4cd_3 + 4d_3^2)
\end{aligned}$$