

$$P^{IV}_{\{2, 1\}} = 116 x^2 + 2^{4-2m} x^2 + 32 x y - 2^{5-2m} x y - 32 y^2 + 2^{4-2m} y^2 + 2^{4+2m} y^2$$

$$P^{IV}_{\{2, 2\}} = 2^{4-2m} x^2 + 32 x y - 2^{5-2m} x y - 16 y^2 + 2^{4-2m} y^2$$

$$Q^{IV}_{\{1, 1, 1\}} = 16 x - 2^{4-m} x + 2^{4-m} y - 2^{4+m} y$$