

$$a_{11}\psi_1 + a_{22}\psi_2 + a_{33}\psi_3 + a_{44}\psi_4 + \sum_{1\leq j < k \leq 4} \psi_j\psi_k[A]_{j,k} + \psi_1\psi_2\psi_3[A]_{1,2,3} + \psi_1\psi_2\psi_4[A]_{1,2,4} + \psi_1\psi_3\psi_4[A]_{1,3,4} + \psi_2\psi_3\psi_4[A]_{2,3,4}$$