Template for simulations for the real matrix-matrix product algorithms

$$A = \begin{bmatrix} a_{00} & a_{01} \\ a_{10} & a_{11} \\ a_{20} & a_{21} \\ a_{30} & a_{31} \end{bmatrix}_{4\times 2} \qquad b = \begin{bmatrix} b_{00} \\ b_{10} \end{bmatrix}_{2\times 1}$$

$$c = Ab = \begin{bmatrix} (a_{00}b_0 + a_{01}b_1) \\ (a_{10}b_0 + a_{11}b_1) \\ (a_{20}b_0 + a_{21}b_1) \\ (a_{30}b_0 + a_{31}b_1) \end{bmatrix}_{4\times 1}$$

Matrix c can be schematically represented as follows:

$$c = \begin{bmatrix} (\square + \square) \\ (\square + \square) \\ (\square + \square) \\ (\square + \square) \end{bmatrix}$$

where each rectangle represents a product

$$a_{ij}b_j$$