Template for simulations for the real matrix-matrix product algorithms

$$A = \begin{bmatrix} a_{00} & a_{01} \\ a_{10} & a_{11} \\ a_{20} & a_{21} \\ a_{30} & a_{31} \end{bmatrix}_{4\times 2} \qquad B = \begin{bmatrix} b_{00} & b_{01} & b_{02} \\ b_{10} & b_{11} & b_{12} \end{bmatrix}_{2\times 3}$$

$$C = A\,B =$$

$$= \begin{bmatrix} (a_{00}b_{00} + a_{01}b_{10}) & (a_{00}b_{01} + a_{01}b_{11}) & (a_{00}b_{02} + a_{01}b_{12}) \\ (a_{10}b_{00} + a_{11}b_{10}) & (a_{10}b_{01} + a_{11}b_{11}) & (a_{10}b_{02} + a_{11}b_{12}) \\ (a_{20}b_{00} + a_{21}b_{10}) & (a_{20}b_{01} + a_{21}b_{11}) & (a_{20}b_{02} + a_{21}b_{12}) \\ (a_{30}b_{00} + a_{31}b_{10}) & (a_{30}b_{01} + a_{31}b_{11}) & (a_{30}b_{02} + a_{31}b_{12}) \end{bmatrix}_{4\times 3}$$

Matrix C can be schematically represented as follows:

$$C = \begin{bmatrix} (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) \\ (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) \\ (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) \\ (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) & (\boxed{} + \boxed{}) \end{bmatrix}$$

where each rectangle represents a product

$a_{ik}b_{kj}$