

$$a^{pk} \otimes b^j = \left\| \begin{array}{ccc} 0 & 3 & -1 \\ -3 & -4 & -2 \\ 1 & 0 & -1 \end{array} \right\| \otimes \left\| \begin{array}{c} -1 \\ 3 \\ -2 \end{array} \right\| = \left\| \begin{array}{ccc|ccc|ccc} 0 & -3 & 1 & 0 & 9 & -3 & 0 & -6 & 2 \\ 3 & 4 & 2 & -9 & -12 & -6 & 6 & 8 & 4 \\ -1 & 0 & 1 & 3 & 0 & -3 & -2 & 0 & 2 \end{array} \right\|$$