$$a_k \otimes \left(3b^i \otimes c^l - 5d^{il} \otimes e\right) = \begin{Vmatrix} 1 & 1 \end{Vmatrix} \otimes \left(3 \begin{Vmatrix} -2 \\ 2 \end{Vmatrix} \otimes \begin{Vmatrix} 5 \\ 1 \end{Vmatrix} - 5 \begin{Vmatrix} -4 & 4 \\ 0 & -4 \end{Vmatrix} \otimes \|1\|\right) = \begin{Vmatrix} 1 & 1 \end{Vmatrix} \otimes \left(\begin{Vmatrix} -6 \\ 6 \end{Vmatrix} \otimes \begin{Vmatrix} 5 \\ 1 \end{Vmatrix} - \begin{Vmatrix} -20 & 20 \\ 0 & -20 \end{Vmatrix} \otimes \|1\|\right) = \begin{Vmatrix} 1 & 1 \end{Vmatrix} \otimes \left(\begin{Vmatrix} -30 & -6 \\ 30 & 6 \end{Vmatrix} - \begin{Vmatrix} -20 & 20 \\ 0 & -20 \end{Vmatrix}\right) =$$

$$= \begin{Vmatrix} 1 & 1 \end{Vmatrix} \otimes \begin{Vmatrix} -10 & -26 \\ 30 & 26 \end{Vmatrix} = \left\| \begin{array}{cc|cc} -10 & -26 & -10 & -26 \\ 30 & 26 & 30 & 26 \end{array} \right\|$$