Getting the cofactors from the matrix of minors!

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$$\text{Minors}: \begin{bmatrix} M_{11} & M_{12} & M_{13} \\ M_{21} & M_{22} & M_{23} \\ M_{31} & M_{32} & M_{33} \end{bmatrix} \quad \text{apply} \begin{bmatrix} + & - & + \\ - & + & - \\ + & - & + \end{bmatrix}$$

to get

$$C = \begin{bmatrix} +M_{11} & -M_{12} & +M_{13} \\ -M_{21} & +M_{22} & -M_{23} \\ +M_{31} & -M_{32} & +M_{33} \end{bmatrix}$$

row i col j $+2 = ③$ - add

$$C = \begin{bmatrix} +(-3) & -(-11) & +(13) \\ -(1) & +(-5) & -(13) \\ +(-5) & -(-1) & +(13) \end{bmatrix}$$

$$C = \begin{bmatrix} -3 & 11 & 13 \\ -1 & -5 & -13 \\ -5 & 1 & 13 \end{bmatrix}$$