

$$\begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix}$$

$$\begin{pmatrix} -i & 0 \\ 0 & -i \end{pmatrix}$$

$$\begin{pmatrix} i & 0 \\ 0 & i \end{pmatrix}$$

$$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$\begin{pmatrix} -(-1)^{1/4} & 0 \\ 0 & -(-1)^{1/4} \end{pmatrix}$$

$$\begin{pmatrix} (-1)^{1/4} & 0 \\ 0 & (-1)^{1/4} \end{pmatrix}$$

$$\begin{pmatrix} -(-1)^{3/4} & 0 \\ 0 & -(-1)^{3/4} \end{pmatrix}$$

$$\begin{pmatrix} (-1)^{3/4} & 0 \\ 0 & (-1)^{3/4} \end{pmatrix}$$

$$\begin{pmatrix} -2^{-m/2} & -2 \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ -2^{-m/2} & 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} -i 2^{-m/2} & -2 i \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ -i 2^{-m/2} & i 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} i 2^{-m/2} & 2 i \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ i 2^{-m/2} & -i 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} 2^{-m/2} & 2 \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ 2^{-m/2} & -2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} -(-1)^{1/4} 2^{-m/2} & -2 (-1)^{1/4} \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ -(-1)^{1/4} 2^{-m/2} & (-1)^{1/4} 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} (-1)^{1/4} 2^{-m/2} & 2 (-1)^{1/4} \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ (-1)^{1/4} 2^{-m/2} & -(-1)^{1/4} 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} -(-1)^{3/4} 2^{-m/2} & -2 (-1)^{3/4} \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ -(-1)^{3/4} 2^{-m/2} & (-1)^{3/4} 2^{-m/2} \end{pmatrix}$$

$$\begin{pmatrix} (-1)^{3/4} 2^{-m/2} & 2 (-1)^{3/4} \operatorname{Sinh}\left[\frac{1}{2} m \operatorname{Log}[2]\right] \\ (-1)^{3/4} 2^{-m/2} & -(-1)^{3/4} 2^{-m/2} \end{pmatrix}$$