

Lösung zur Aufgabe 3.3

$$\sigma(A) = \{1 + 2i, 1 - 2i\}$$

$$U = \frac{1}{\sqrt{2}} \begin{pmatrix} i & -i \\ 1 & 1 \end{pmatrix}$$

$$U^* = \frac{1}{\sqrt{2}} \begin{pmatrix} -i & 1 \\ i & 1 \end{pmatrix}$$

$$\sigma(B) = \{2i, 2, -i\}$$

$$V = \frac{1}{\sqrt{2}} \begin{pmatrix} i & -i & 0 \\ 0 & 0 & \sqrt{2} \\ 1 & 1 & 0 \end{pmatrix}$$

$$V^* = \frac{1}{\sqrt{2}} \begin{pmatrix} -i & 0 & 1 \\ i & 0 & 1 \\ 0 & \sqrt{2} & 0 \end{pmatrix}$$