On equiangular lines of $\mathbb{C}^3$

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We aim to describe all p-tuples of equiangular lines in $\mathbb{C}^3$. In fact this is equivalent to determine all the p-tuples of equi-isoclinic planes in $\mathbb{R}^6$ whose associated Seidel matrices contain beside the zero diagonal blocks, blocks in SO_2. So, first we recall some basic definitions and properties as well as some relevant results about equi-isoclinic planes. Then, we establish a method to derive quadruples of equi-isoclinic planes in $\mathbb{R}^6$. Moreover, we provide an infinite one parameter family of sextuples of equi-isoclinic planes in $\mathbb{R}^6$ with angle $\arccos c \in [\frac{\pi}{3}, \arccos \frac{1}{\sqrt{5}}]$. Finally, we determine the maximum number of equi-isoclinic planes that we can construct for some values of the angle.