Parameters			Conditions	Range	Type
$\gamma > 0$	$0 < \lambda \leq 1$	$\alpha,\beta>0$	$\gamma > \alpha + \beta$ if $\lambda = 1$	$[0,\infty)$	Ι
		$\begin{array}{l} \alpha,\beta\in\mathbb{C},\\ \alpha=\bar{\beta} \end{array}$	$\gamma > \alpha + \beta$ if $\lambda = 1$	$[0,\infty)$	II
		$\begin{array}{l} \alpha,\beta < 0, \\ \alpha,\beta \notin \mathbb{Z}^{-} \end{array}$	$[\alpha] = [\beta]$	$[0,\infty)$	III
	$0 < \lambda$	$\begin{array}{l} \alpha,\beta<0,\\ \alpha\in\mathbb{Z}^- \end{array}$	$ \beta > \alpha - 1$	[0, lpha)	IV
	$\lambda < 0$	$\alpha \in \mathbb{Z}^-, \beta > 0$		[0, lpha)	V
$\gamma < 0$	$0 < \lambda \leq 1$	$\begin{array}{l} \alpha < 0, \alpha \notin \mathbb{Z}^-, \\ \beta > 0 \end{array}$	$[\alpha] = [\gamma],$ $\gamma > \alpha + \beta \text{ if } \lambda = 1$	$[0,\infty)$	VI
	$0 < \lambda$	$\alpha \in \mathbb{Z}^-, \beta > 0$	$ \gamma > \alpha - 1$	$[0, \alpha)$	VII
	$\lambda < 0$	$\begin{array}{l} \alpha,\beta<0,\\ \alpha\in\mathbb{Z}^- \end{array}$	$\left \gamma\right ,\left \beta\right >\left \alpha\right -1$	[0, lpha)	VIII

Table 1: Classification of the GHD family (α and β are interchangeable)