$$|\Upsilon_{1}\rangle = |z_{+}z_{+}z_{+}\rangle \quad |z_{+}z_{+}z_{-}\rangle \quad |z_{+}z_{-}z_{+}\rangle \quad |z_{+}z_{-}z_{-}\rangle$$

$$+|z_{-}z_{-}z_{-}\rangle \quad +|z_{-}z_{-}z_{+}\rangle \quad +|z_{-}z_{+}z_{-}\rangle \quad +|z_{-}z_{+}z_{+}\rangle$$

$$|z_{+}z_{+}z_{+}\rangle \quad |z_{+}z_{+}z_{-}\rangle \quad |z_{+}z_{-}z_{+}\rangle \quad |z_{+}z_{-}z_{-}\rangle$$

$$-|z_{-}z_{-}z_{-}\rangle \quad -|z_{-}z_{-}z_{+}\rangle \quad -|z_{-}z_{+}z_{-}\rangle \quad -|z_{-}z_{+}z_{+}\rangle$$

$$(a)$$

$$|x_{-}x_{-}x_{-}\rangle \quad |x_{+}x_{-}x_{+}\rangle \quad |x_{+}x_{+}x_{+}\rangle \quad |x_{-}x_{+}x_{-}\rangle \quad |x_{-}x_{+}x_{-}\rangle$$

$$|x_{-}x_{+}x_{+}\rangle \quad |x_{+}x_{+}x_{-}\rangle \quad |x_{+}x_{-}x_{-}\rangle \quad |x_{-}x_{-}x_{+}\rangle$$

$$|x_{-}x_{-}x_{+}\rangle \quad |x_{+}x_{+}x_{-}\rangle \quad |x_{+}x_{-}x_{-}\rangle \quad |x_{-}x_{-}x_{+}\rangle$$

$$|x_{-}x_{-}x_{-}\rangle \quad |x_{+}x_{-}x_{+}\rangle \quad |x_{+}x_{+}x_{+}\rangle \quad |x_{-}x_{-}x_{+}\rangle$$

$$|y_{-}x_{-}y_{-}\rangle \quad |y_{+}x_{-}y_{+}\rangle \quad |y_{+}x_{+}y_{+}\rangle \quad |y_{-}x_{-}y_{+}\rangle$$

$$|y_{-}y_{-}x_{-}\rangle \quad |y_{+}y_{-}x_{+}\rangle \quad |y_{+}y_{+}x_{+}\rangle \quad |y_{-}y_{-}x_{+}\rangle$$

$$|y_{-}y_{+}x_{+}\rangle \quad |y_{+}y_{+}x_{-}\rangle \quad |y_{+}y_{-}x_{-}\rangle \quad |y_{-}y_{-}x_{+}\rangle$$

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$$|y_{-}y_{-}x_{+}\rangle \quad |y_{+}y_{+}x_{-}\rangle \quad |y_{-}y_{-}x_{+}\rangle$$

$$|y_{-}y_{-}x_{+}\rangle \quad |y_{+}y_{+}x_{-}\rangle \quad |y_{-}y_{-}x_{+}\rangle$$