with

$$
\begin{aligned}
\bar{Y}^{U(D)}_{1(2)} &= \sin\beta Y^{U(D)}_1 + \cos\beta Y^{U(D)}_2 \,, \\
\bar{Y}^{U}_{2} &= \cos\beta Y^{U}_1 - \sin\beta Y^{U}_2 \,, \\
\bar{Y}^{D}_{1} &= -\cos\beta Y^{D}_1 + \sin\beta Y^{D}_2 \,.
\end{aligned} \tag{7}
$$

Here, $\bar{Y}^{U(D)}_{1(2)}$ dictate the masses of quarks while $\bar{Y}^{U(D)}_{2(1)}$ provide the couplings of new neutral and charged Higgses to the SM particles. We note that the same expression could be applied to leptons and the corresponding Yukawa matrices could be read by $\bar{Y}^{\ell}_{2,1}$, respectively. Hence, from Eq. (6) the diagonalized mass matrix for fermions is given by

$$
m^{\rm dia}_F = \frac{v}{\sqrt{2}} V^F_L \bar{Y}^F_\alpha V^{F\dagger}_R \tag{8}
$$

where $\alpha = 1(2)$ for $F = U(D,\ell)$. Clearly, if $\bar{Y}^F_{1(2)}$ and $\bar{Y}^F_{2(1)}$ cannot be diagonalized simultaneously, the FCNCs at tree level will be induced and associated with doublet H. Now our purpose is to look for the nontrivial $\bar{Y}^F_{2(1)}$ so that FCNCs can be avoided. The most obvious solution to the question is the aligned Yukawa matrices, i.e. $\bar{Y}^F_{2(1)} \propto \bar{Y}^F_{1(2)}$ [23]. Due to the coupling of charged Higgs and charged lepton being proportional to the mass of lepton, this scenario will lead to the ratio, defined by

$$
R_P = \frac{\Gamma(P^{\pm}_{\ell' 2})}{\Gamma(P^{\pm}_{\ell 2})} \,, \tag{9}
$$

to be the same as SM; in other words, the violation of lepton universality in R_P will be canceled. We will show that in some interesting scenario, not only can $\bar{Y}^F_{2(1)}$ and $\bar{Y}^F_{1(2)}$ be diagonalized simultaneously but also the violation of lepton universality could be generated in R_P by $H^{\pm}$-mediated effects.

To find the suitable $\bar{Y}^F_{2(1)}$ for satisfying our criterions, we set the relevant matrices to be

$$
\begin{aligned}
I_{00} &= \begin{pmatrix} a & 0 & 0 \\ 0 & b & 0 \\ 0 & 0 & c \end{pmatrix} , \; I_{12} = \begin{pmatrix} 0 & a & 0 \\ b & 0 & 0 \\ 0 & 0 & c \end{pmatrix} , \\
I_{23} &= \begin{pmatrix} a & 0 & 0 \\ 0 & 0 & b \\ 0 & c & 0 \end{pmatrix} , \; I_{31} = \begin{pmatrix} 0 & 0 & a \\ 0 & b & 0 \\ c & 0 & 0 \end{pmatrix}
\end{aligned} \tag{10}
$$