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Neutrino Mixing by modifying the Yukawa coupling structure of constrained sequential dominance

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In the constrained sequential dominance (CSD), tri-bimaximal mixing (TBM) pattern in the neutrino sector has been explained, by proposing a certain Yukawa coupling structure for the right-handed neutrinos of the model. However, from the current experimental data it is known that the values of neutrino mixing angles are deviated from the TBM values. In order to explain this neutrino mixing, we first propose a phenomenological model where we consider Yukawa couplings which are modified from that of CSD. Essentially, we add small complex parameters to the Yukawa couplings of CSD. Using these modified Yukawa couplings, we demonstrate that neutrino mixing angles can deviate from their TBM values. We also construct a model, based on a flavor symmetry, in order to justify the modified form of Yukawa couplings of our work.

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