Review of: "Natural Polyphenols of Pomegranate and Black Tea Juices can Combat COVID-19 through their SARS-CoV-2 3C-like Protease-inhibitory Activity"

Karl Tsim[1]

1 Hong Kong University of Science and Technology

Potential competing interests: No potential competing interests to declare.

The authors claimed that HIV-1 protease inhibitors and some herbal teas could potentially combat the COVID-19. There are some issues below that are needed to be considered.

1. Several abbreviations were used here, and it might be convenient for readers if there is an abbreviation list.

2. Regarding the infectious mechanism, spike-protein of SARS-CoV-2 binds to ACE2 receptor from host cells and triggers cell fusion and cell infection afterwards. This has been well illustrated in literatures, hence please be more specific in the introduction section by adding these literatures.

3. Lopinavir and ritonavir showed inhibitions to 3CL protease, but this does not necessarily suggest that all HIV-1 protease inhibitor could “combat the COVID-19”. It is very ambitious to make conclusion like this.

4. The authors claimed that “3C-like protease activity was inhibited about 80% by tannic acid, 65% by TF-1, 60% by TF2B, and 80% by TF-3”. What concentrations were used for each of these phytochemicals? Please be more specific.

5. How much amount of hydrolyzable tannin, punicalagin, ellagic acid, and galloylglucose were contained in pomegranate juice? A very tiny amount of these chemical in pomegranate juice might not turn out to be effective and thus it might not mean pomegranate juices “could be useful to combat COVID-19”.

6. What are the statistics like when saying Puer and black tea are more effective than oolong and green tea? Were dose-activity curves ever carried out? If so, it would be nice to provide IC50 values to compare potency of these samples.