Supporting Information

Title: Enantiomers of Chloroquine and Hydroxychloroquine Exhibit Different Activities Against SARS-CoV-2 *in vitro*, Evidencing *S*-Hydroxychloroquine as a Potentially Superior Drug for COVID-19

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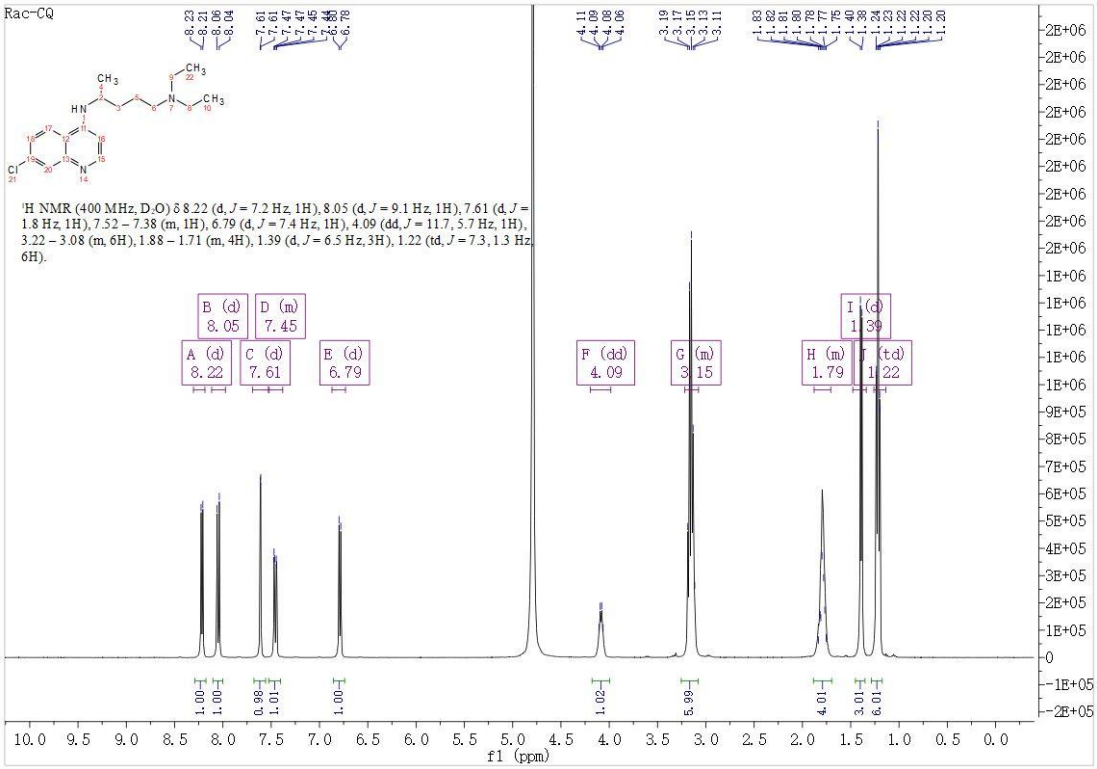


Figure S2. ^{13}C NMR (101 MHz, D_2O) of Rac-CQ diphosphate.

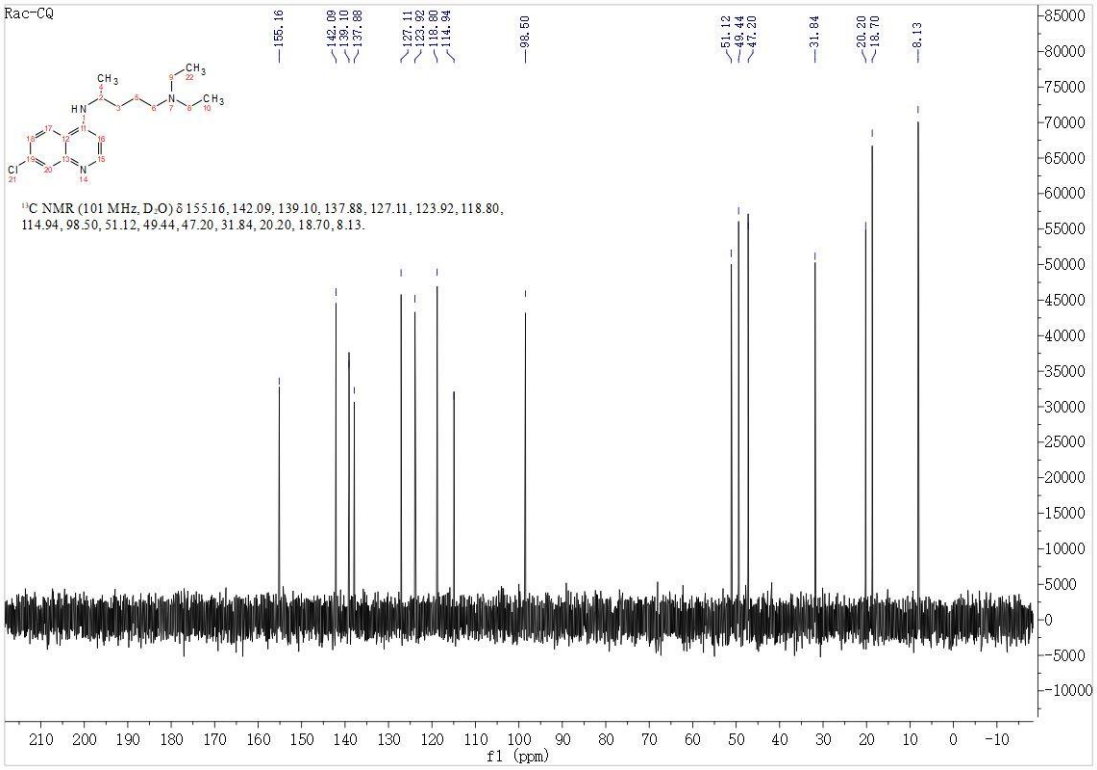


Figure S3. ^{1}H NMR (400 MHz, D_2O) of Rac-HCQ sulfate.

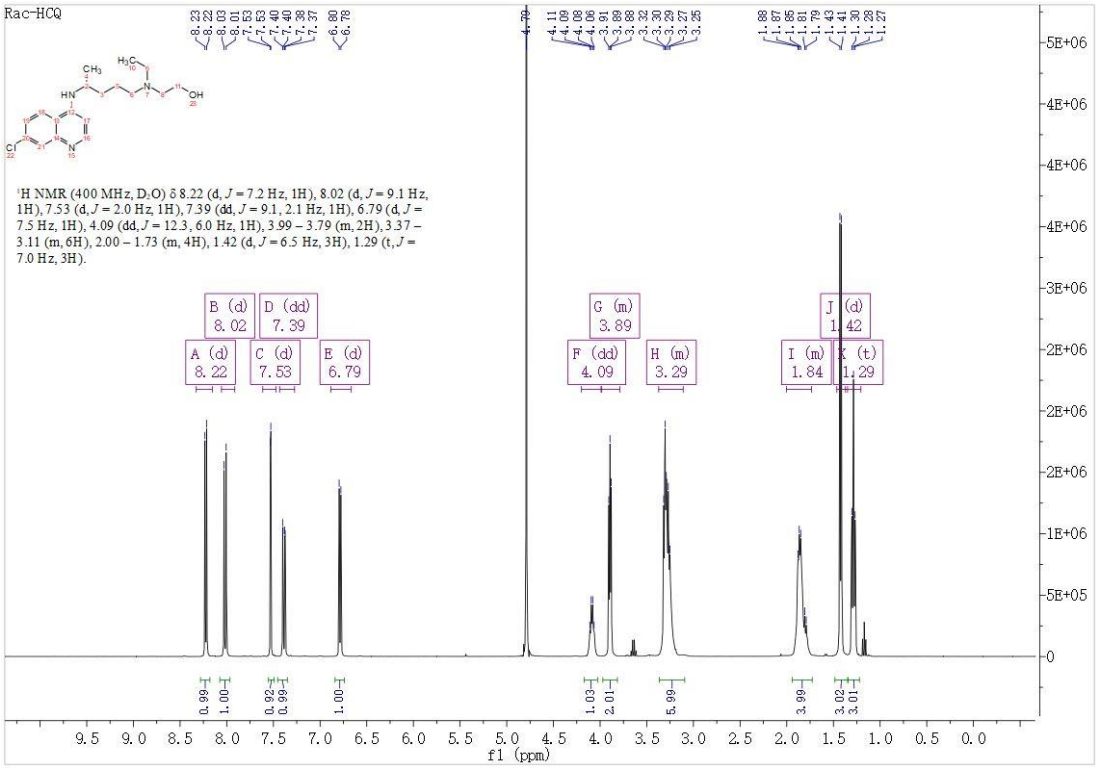


Figure S4. ^{13}C NMR (101 MHz, D_2O) of Rac-HCQ sulfate.

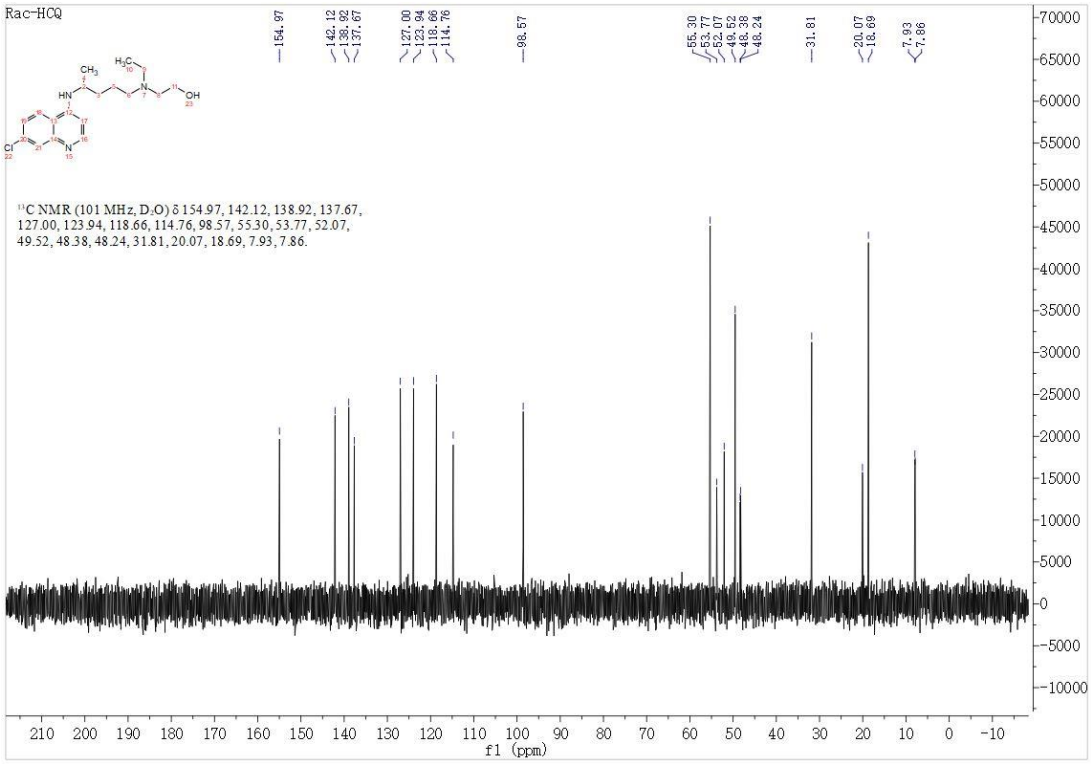


Figure S5. ^{1}H NMR (400 MHz, D_2O) of R-CQ diphosphate.

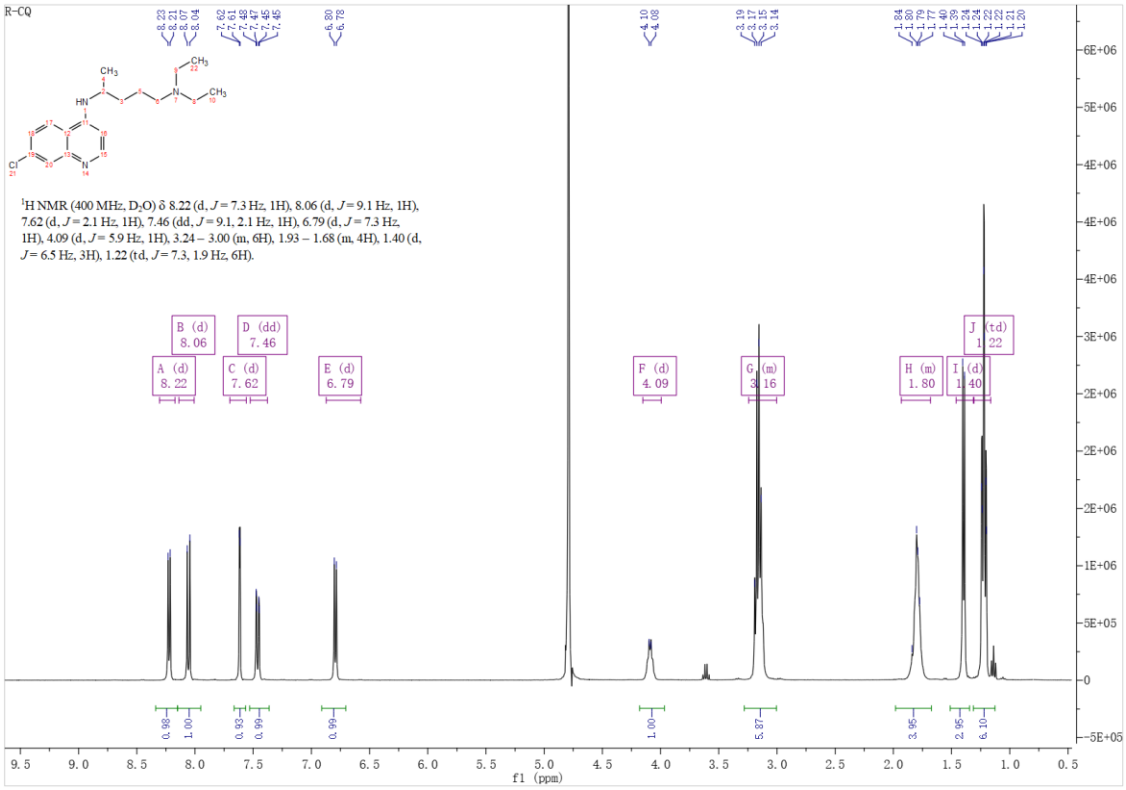


Figure S6. ^{13}C NMR (101 MHz, D_2O) of R-CQ diphosphate.

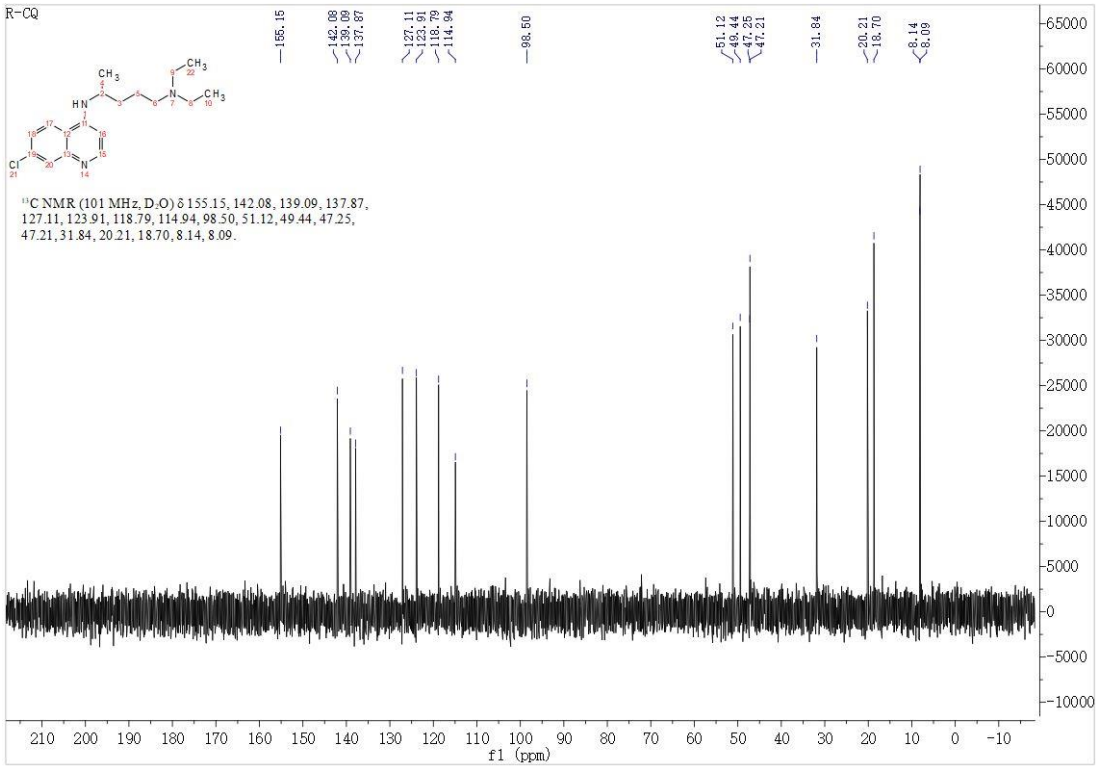


Figure S7. ^{1}H NMR (400 MHz, D_2O) of S-CQ diphosphate.

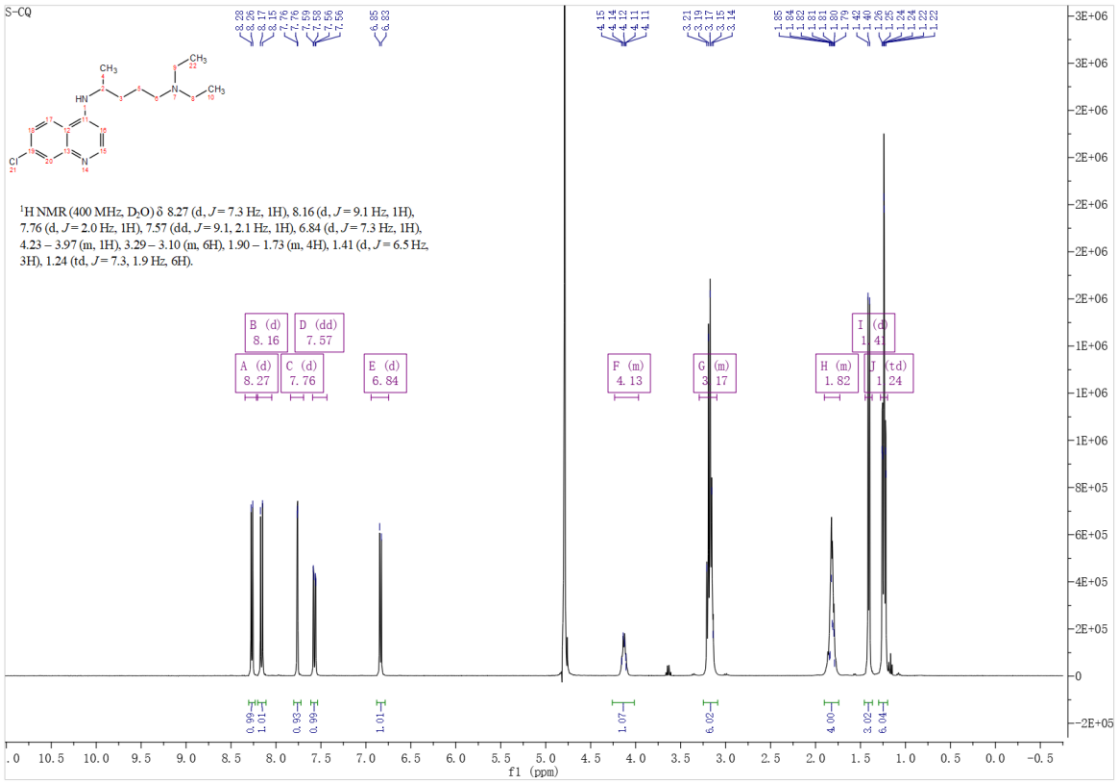


Figure S8. ^{13}C NMR (101 MHz, D_2O) of S-CQ diphosphate.

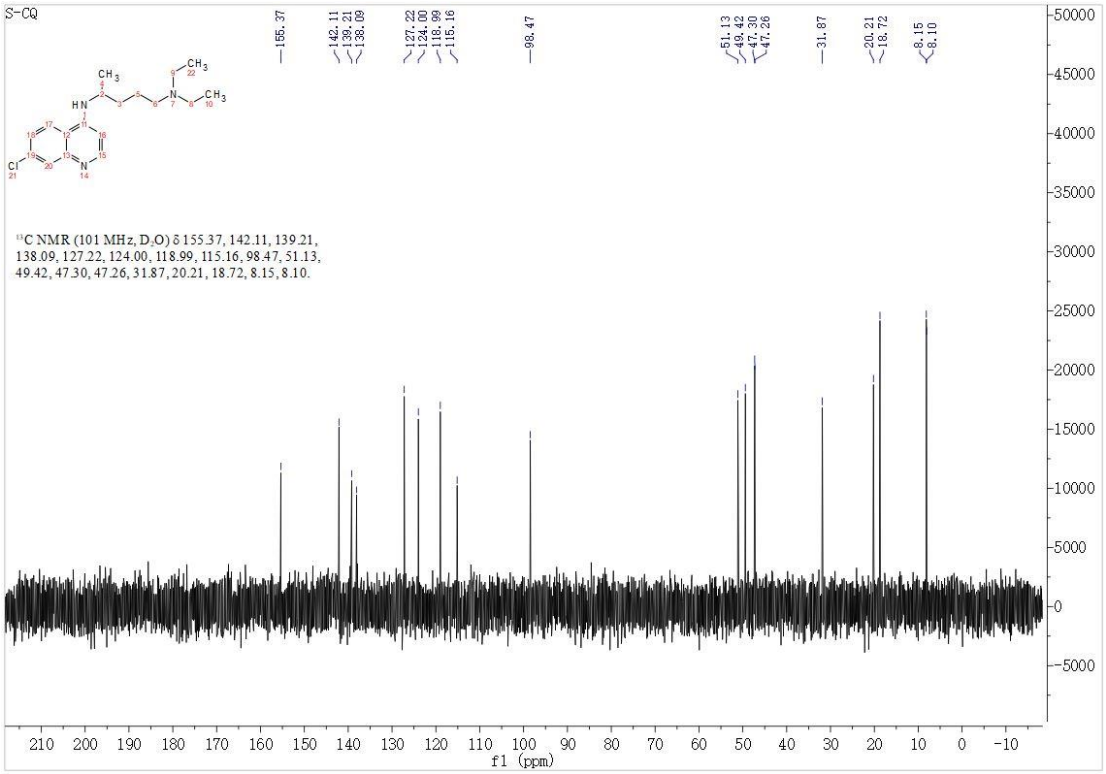


Figure S9. ^{1}H NMR (400 MHz, D_2O) of R-HCQ sulfate.

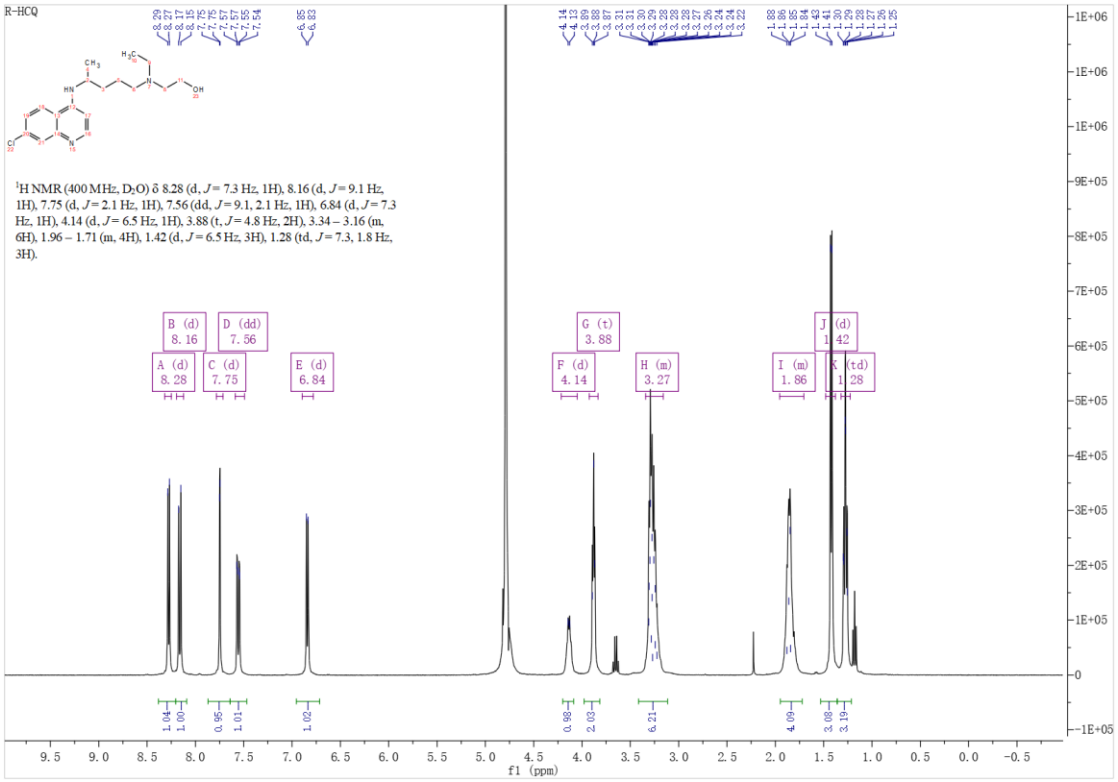


Figure S10. ^{13}C NMR (101 MHz, D_2O) of R-HCQ sulfate.

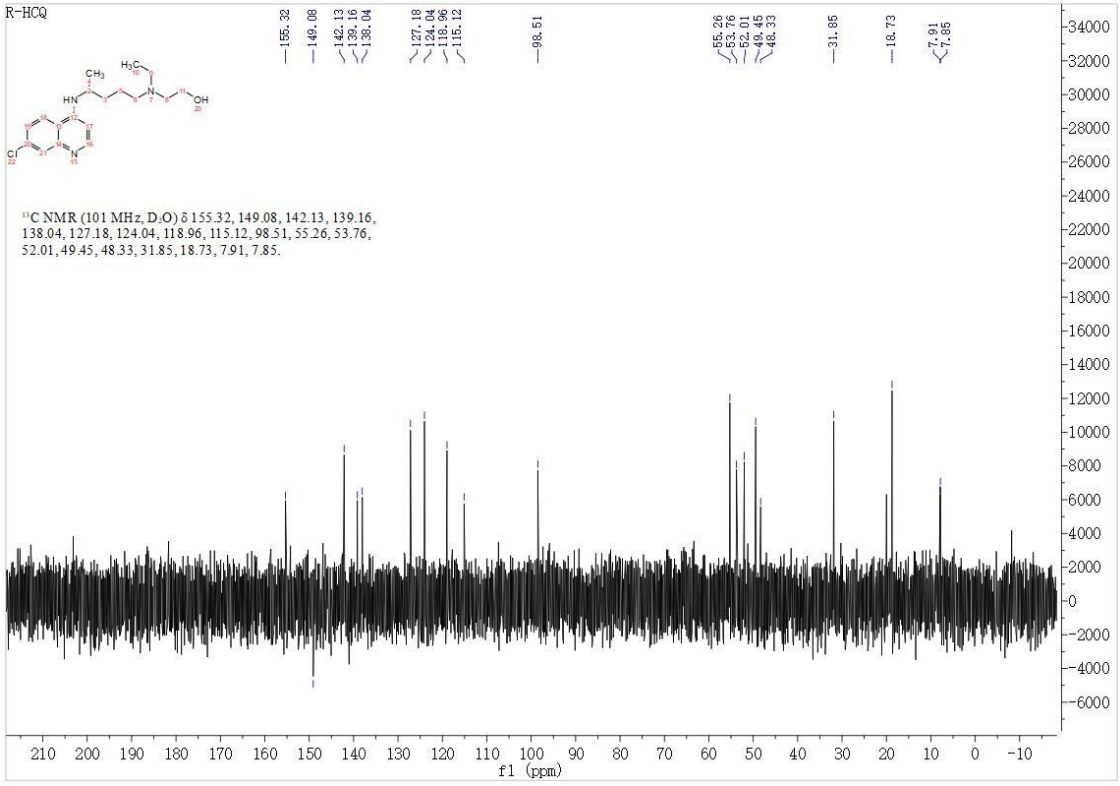


Figure S11. ^{1}H NMR (400 MHz, D_2O) of S-HCQ sulfate.

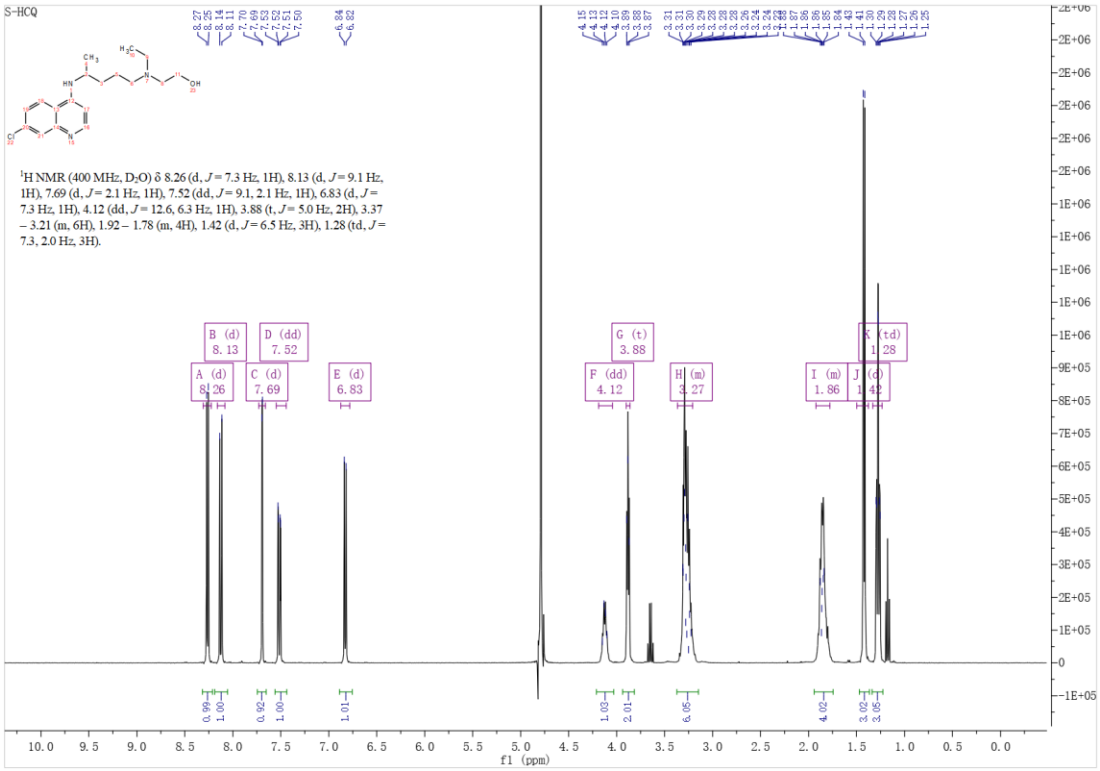


Figure S12. ^{13}C NMR (101 MHz, D_2O) of S-HCQ sulfate.

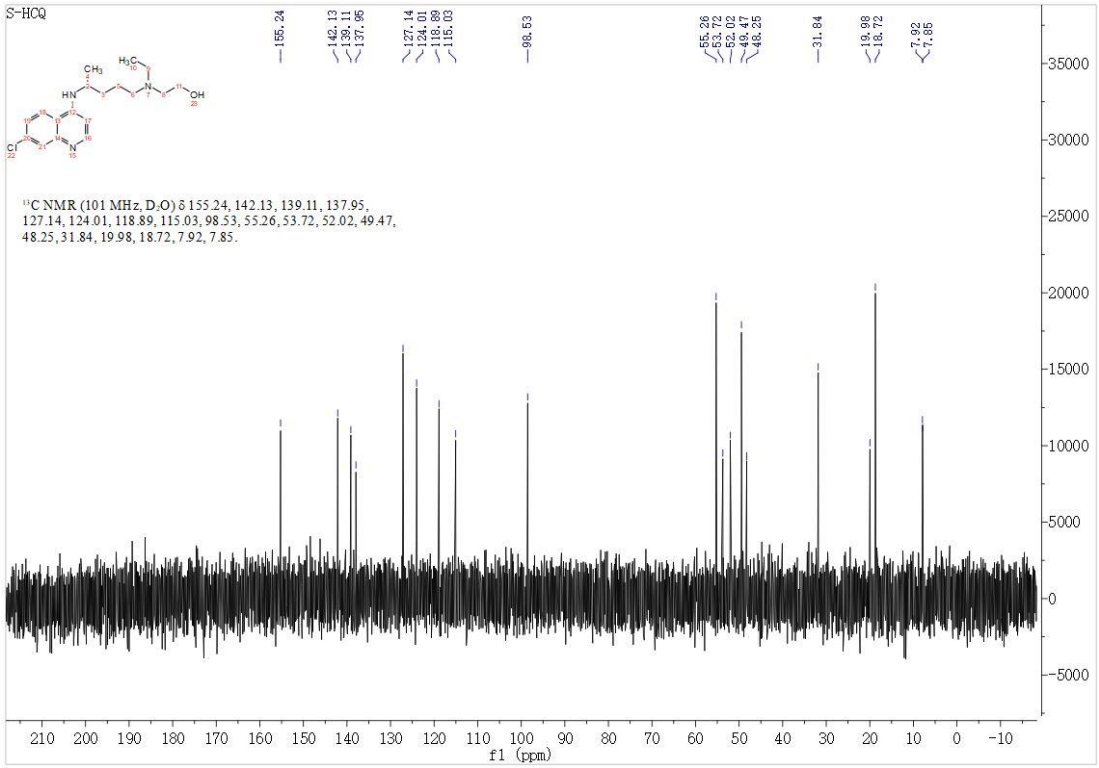
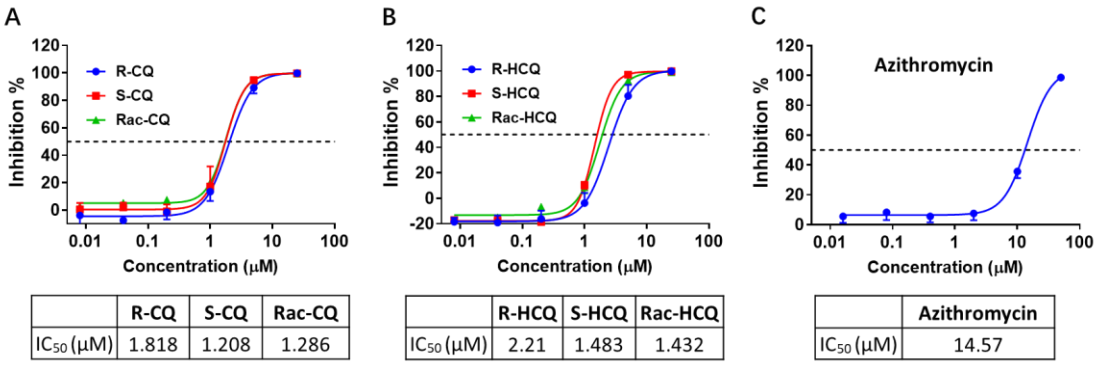


Figure S13. Antiviral activities (second batch)



	R-CQ	S-CQ	Rac-CQ
IC_{50} (μM)	1.818	1.208	1.286

	R-HCQ	S-HCQ	Rac-HCQ
IC_{50} (μM)	2.21	1.483	1.432

	Azithromycin
IC_{50} (μM)	14.57

Figure S13. The antiviral activities of racemic and enantiomeric chloroquine diphosphate (A) and hydroxychloroquine sulfate (B), as well as azithromycin against SARS-CoV-2 *in vitro*. Vero E6 cells were infected with SARS-CoV-2 (MOI = 0.05) at different concentrations: 0.008, 0.04, 0.2, 1, 5, and 25 μM, for 24 h. Data represented are the mean value of % inhibition of SARS-CoV-2 on Vero E6 cells. Experiments were performed three times for each batch, independently.