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Full characterisation of remdesivir & polymorph and cocrystal screening of remdesivir

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Remdesivir is an antiviral drug that was initially deployed to treat infections of the Hepatitis C Virus (HCV) but was found to have potential as a treatment for SARS-CoV-2 infection (COVID-19). A disconcerting issue in the pharmaceutical industry is the limited bioavailability of some active pharmaceutical ingredients, APIs, which have poor solubility in water; Remdesivir has this issue. It is currently only able to be deployed as an intravenous directly. The main aim of this research is to be able to manipulate the physical properties of Remdesivir whilst maintaining the chemical and pharmaceutical effects of this antiviral. Polymorph and Cocrystal screening fall under the umbrella of crystal engineering techniques. The aim of crystal engineering is to determine if any new crystals of Remdesivir can be formed and whether these new crystals can be manipulated into a new route of administration for this life-saving drug.

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