

The purpose of this study was to investigate the effect of additives on the powder characteristics of peonja dry elixir. Peonja dry elixirs were prepared with various amounts of dextrin using a spray-dryer, and their powder characteristics such as flow, cohesion and compressibility were evaluated as an angle of repose, cohesion index and compressibility index, respectively. Their powder characteristics were not significantly different from one another, indicating that the hydrophilic dextrin, a base of dry elixir hardly affected their powder characteristics. Peonja dry elixirs were prepared with 10% dextrin and various amounts of additives such as mannitol (hydrophilic excipient), sodium lauryl sulfate (surfactant), colloidal silica (hydrophobic excipient) and HPMC (polymer), respectively, and their angle of repose, cohesion index and compressibility index were measured. The powder characteristics of peonja dry elixirs prepared with mannitol were not significantly different from one another, indicating that the mannitol scarcely improved the powder characteristics of peonja dry elixirs. The angle of repose and cohesion index of peonja dry elixirs significantly decreased with increasing amount of sodium lauryl sulfate to 0.3% followed by no significant changes in them. The cohesion index of peonja dry elixir significantly decreased with increasing amount of colloidal silica. The angle of repose and cohesion index of peonja dry elixir significantly decreased with increasing amount of HPMC to 0.3% followed by an abrupt increase in them. However, the compressibility index of peonja dry elixir significantly increased with increasing amount of HPMC to 0.3% followed by an abrupt decrease in them. Our results suggested that a small amount of sodium lauryl sulfate, colloidal silica and HPMC improved markedly the powder characteristics of peonja dry elixirs due to forming stronger and less hygroscopic shell of peonja dry elixirs. Among the peonja dry elixirs studied, the peonja dry elixir prepared with 0.3% sodium lauryl sulfate and 0.3% HPMC had the lowest angle of repose of 27° and cohesion index of 37.8%, and the highest compressibility index of 38.7%, respectively. Thus, sodium lauryl sulfate and HPMC appear to be promising additives for peonja dry elixir, if used in adequate amounts.

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Crystal Structure of a Homooligomycin.

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In our continuing search for biologically active materials from microorganisms, a homooligomycin was isolated from the culture broth of *Streptomyces ostreogriseusa*. The compound showed strong cytotoxicity against several human tumor cell lines. The principle was recrystallized from a methanolic solution, and its precise molecular structure was analyzed by single crystal X-ray diffraction method.

The crystal was not stable enough to X-ray, and there was about 15% intensity decrease during the data collection process. The crystal is monoclinic, with $a=20.463(3)$, $b=11.114(1)$, $c=11.308(2)$ Å, $\beta=105.78(1)^\circ$, space group $P2_1$, $Z=2$. The structure was solved by direct method and refined by least-squares procedure. The current R-value is 0.062 for 4117 observed reflections.

The structure was revealed as $C_{45}H_{74}O_{10}$, a new cytotoxic macrolide antibiotic. There are co-crystallized water molecules (one water per one compound unit) in the crystal. The molecules are held by intra- and intermolecular hydrogen bonds. The other intermolecular contacts are normal van der Waals forces.

Poster Presentations – Field F1. Clinical Pharmacy