About 25% of the drugs approved by FDA from 1981 to 2014 comprised of natural products and their derivatives.\(^1\) As plants and microbes have been, and continue to be the main sources for drug discovery, the contributions of approved drugs from \textit{Arthropoda} phylum, which represents 61% of the living species out of 13 million on Earth, are virtually unheard of.\(^2,3\) A wide array of compounds has been isolated from this species,\(^4\) some of which hold promise as drug candidates. One of these products is cantharidin (1), which was isolated from Spanish flies \textit{(Lytta vesicatoria)} and has garnered a significant amount of attention due to the myriad of bioactivities it holds, such as antitumor, immunomodulatory, and antiplasmodial activities.\(^5\)

Although cantharidin is very bioactive, its applicability as a drug is greatly limited by its toxicity profile. On the other hand, other cantharidin-related compounds, such as the synthetically-derived norcantharidin (2), and a natural analogue, cantharidimide (3), have similar bioactivities as 1 with great reduction in toxicities.\(^5\) This propelled researchers in this field to delve into the structure-activity relationship of cantharidin and its analogues in the hopes of finding a safe and efficacious protein phosphatase inhibitor which has applications in many disease states. All in all, these endeavors into finding lead compounds from an unconventional source hint to us that we should further investigate this group of animals for potential leads for drug discovery.

\[ \text{Lytta vesicatoria (Spanish Fly)} \]

\[ 1: R_1 = \text{CH}_3 \quad R_2 = \text{CH}_3 \]
\[ 2: R_1 = \text{H} \quad R_2 = \text{H} \]

\[ 3 \]

References: