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Marco Polo, Selenium, Drugs and Vampires

There can be no doubt that selenium-containing organic molecules have played and continue to play an important role in biology and medicine. The mythology surrounding the “high toxicity” of selenium, which itself can be traced to the voyages of Marco Polo, and, more recently the American Civil War, has largely been dispelled, and a wide range of organic selenides are now accepted as useful antioxidants, anti-inflammatory agents, antibiotics and anti-viral agents. This presentation begins with Marco Polo’s departure from Venice in 1271 and goes on to outline our recent work toward the preparation of interesting selenium-containing molecules through novel free-radical methods, and their pharmacological testing. Compounds such as selenoeprosartan and selenomilfasartan are lead compounds for a new generation of antihypertensives. Antihypertensive drugs were worth in excess of \$10 billion in worldwide sales in 2006.