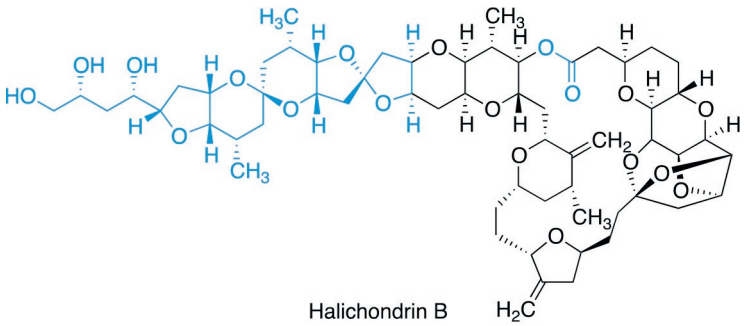
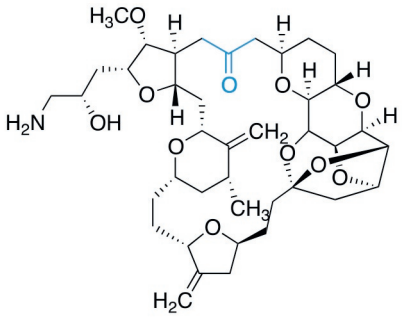


Halichondrin B



Eribulin

Although combinatorial chemistry, diversity-oriented synthesis, and high-throughput screening (HTS) of large compound libraries are important technologies in the discovery of bioactive molecules, the role of natural sources in providing new cytotoxics continues to be relevant.[62,63] Indeed, the notion that the use of natural-product templates combined with chemical modifications leading to more selective analogs has a better chance of success than combinatorial approaches is gaining acceptance. In other words, it appears that, at least in the anticancer field, "nature has already carried out the combinatorial chemistry" and all we have to do is refine the structures.[64] These ideas have led to an increased interest in natural products as drug candidates.[65]

## 8 A BRIEF COMMENT ABOUT CANCER NANOTECHNOLOGY

Nanotechnology is a field of applied science that covers a broad range of topics in which matter is controlled on a scale of 1–100 nm. Its application to cancer chemotherapy includes the use of nanovectors for the targeted delivery of antitumor compounds and imaging contrast agents, aiming at increasing the efficacy per dose of therapeutic or imaging contrast formulations.[66]

Liposomes, which are the simplest forms of nanovectors, use the EPR effect to increase drug concentration at tumor sites, and they were first applied to anthracyclines in order to avoid their cardiotoxicity. The refinement of liposomes and their application in cancer chemotherapy is still an active field of research, although other novel drug-delivery modalities have appeared.[67,68] In general, a nanovector has a core constituent material, a therapeutic and/or imaging payload, and biological surface