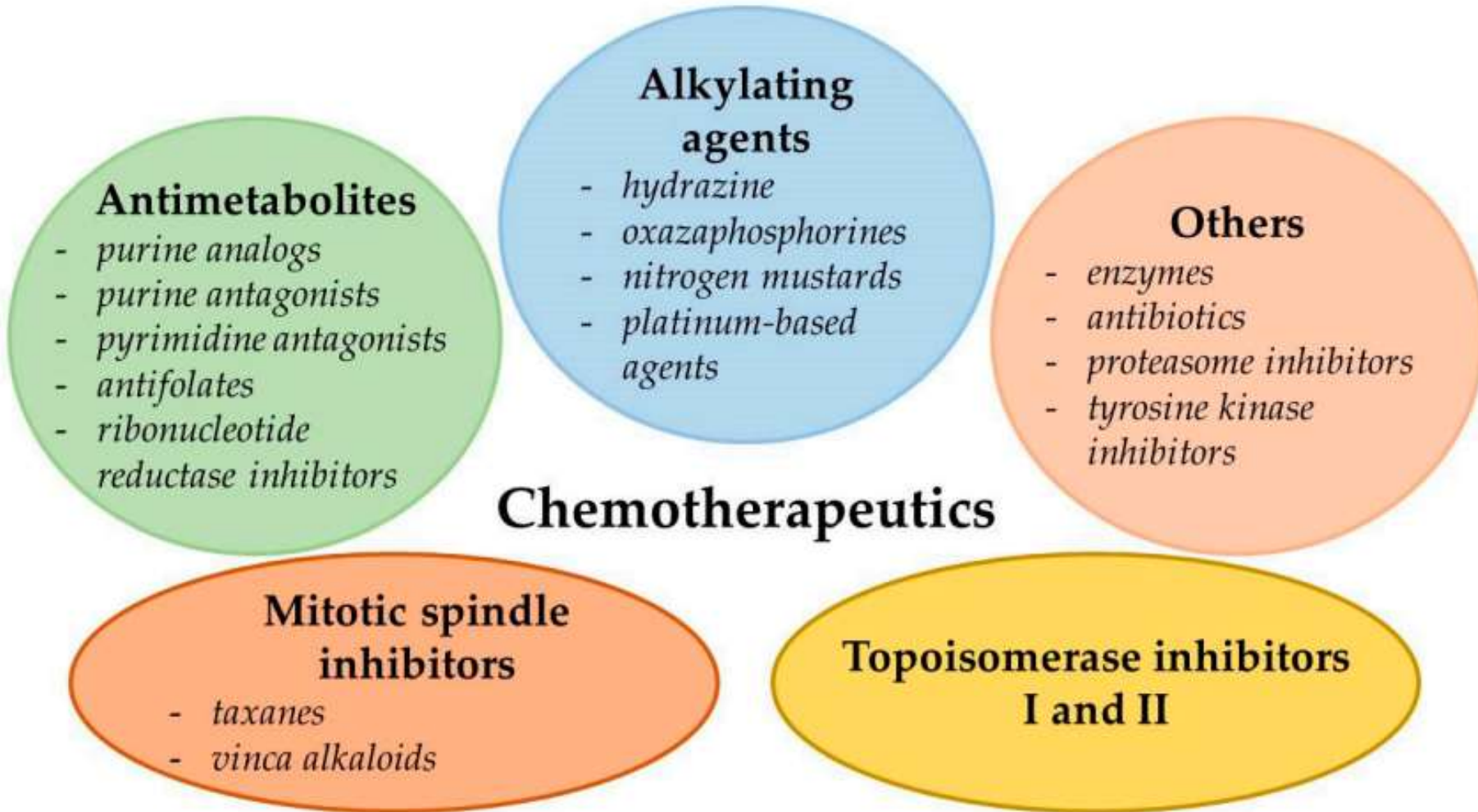


Advancements in Cancer Chemotherapy

Introduction

- The three events that led to the development of cancer treatment began with three events:
 - discovery of X-rays,
 - use of transplantable animal-tumor models in cancer research, and
 - first surgical procedure developed by Halsted (radical mastectomy)
- The term “chemotherapy” was coined by German chemist Paul Ehrlich who investigated the use of drugs to treat infectious diseases. He was also the first scientist to study animal models to screen a series of chemicals regarding their potential activity against diseases. Historical documents suggest the use of arsenicals started in the 1900s. Radiotherapy and surgery were the mainstays of cancer management in the 1960s. As micro-metastases and recurrence of cancer after surgery and radiation therapy became evident, combination chemotherapy started gaining significance.

Classification



The classification of cytostatic drugs in terms of mechanism of action and chemical structure is based on the Anatomical Therapeutic Chemical Classification System

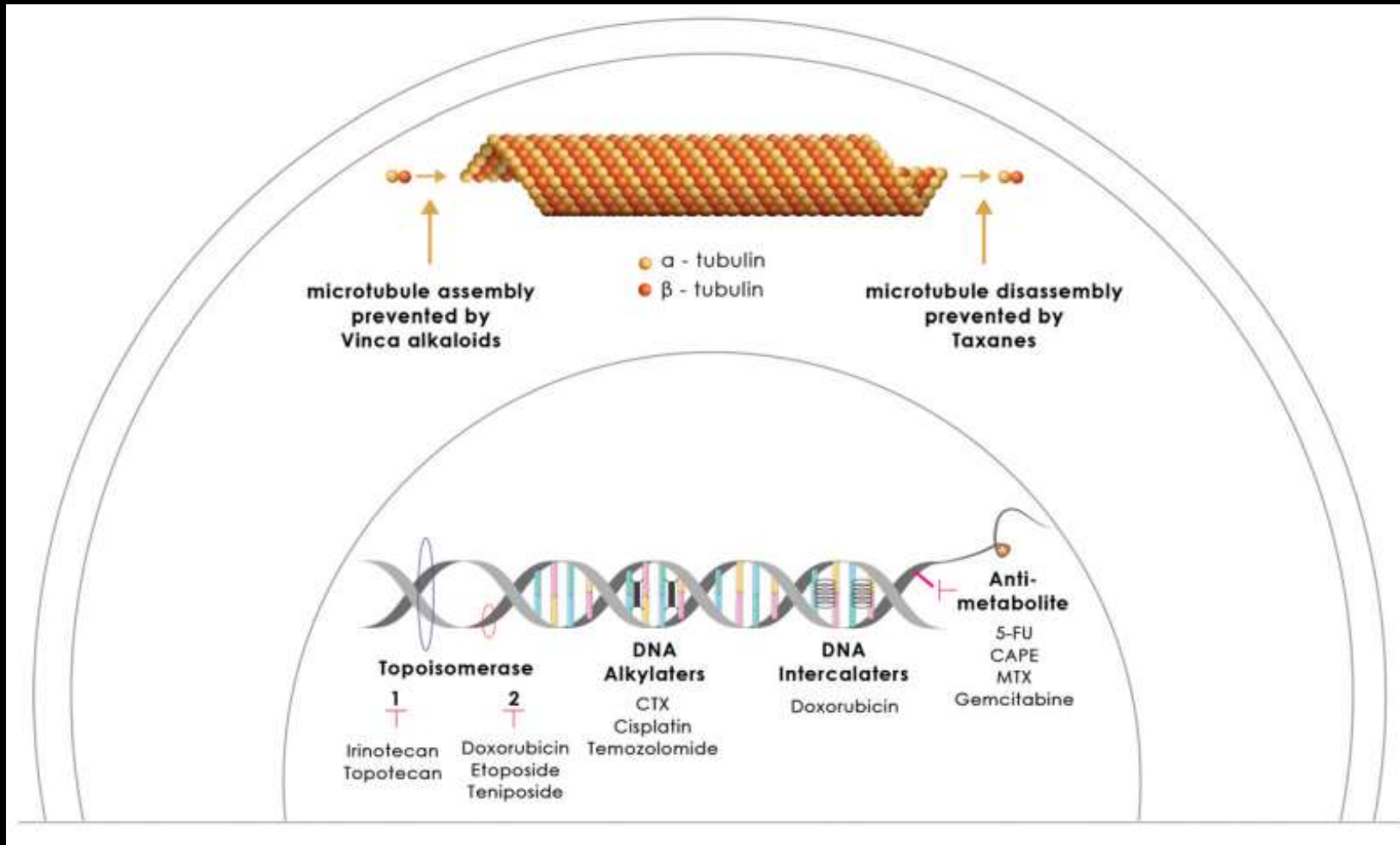


Fig. - Mechanism of chemotherapy. 5-FU: 5-fluorouracil; CAPE: capecitabine, CTX: cyclophosphamide, MTX: methotrexate

Fig. - Classification of cytostatic agents by cell cycle phase in which they act; based on the studies by Krzakowski and Wyrwicz and Orzechowska-Juzwenko

