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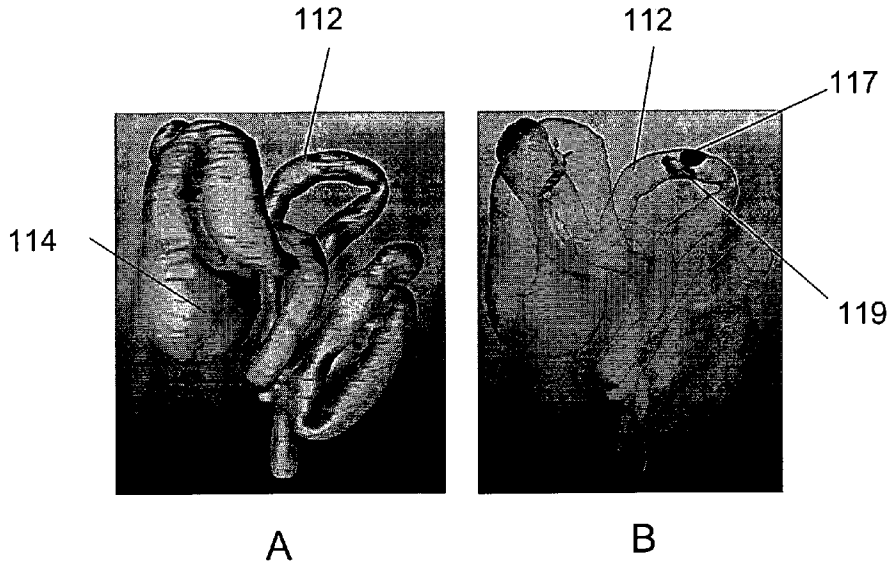
(54) Title: VIRTUAL COLONOSCOPY WITH RADIOLABELED PHOSPHOLIPID ETHER ANALOGS



(57) Abstract: The present invention provides agents and methods for dual modality virtual colonoscopy that gives both anatomical and functional information using hybrid CT/ PET scanning. In preferred embodiments, the present invention provides radiolabeled tumorspecific agents and methods for distinguishing benign polyps from malignant tumors. In further embodiments, the present invention provides compositions and methods useful for distinguishing morphological and functional subregions of a selected region of tissue based on relative levels of phospholipid metabolism. Preferred radiolabeled tumor-specific agents are phospholipid ether analogs labeled with a halogen radioisotope. In certain preferred embodiments, the compositions including radiolabeled phospholipid ether analogs have therapeutic actions in addition to functionally identifying malignant tissue.

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