

OBJECTIVES:

According to World Health Organization, the proportion of the world's population over 60 years by 2050 will be close to 22%. This work aimed to evaluate families of invention patents (FamPat) related to the aging population, quantifying the inventive activity, technical collaboration, advances, and technological trends in the scientific field related to healthcare.

METHODS:

This is descriptive and documentary research on families of invention patents (FamPat). FamPat were selected using the keywords "old people" and healthcare in the title, abstract, and object of the invention of patent documents. Data were obtained and analyzed using the Questel Orbit Intelligence®1.9.8 platform in January 2023.

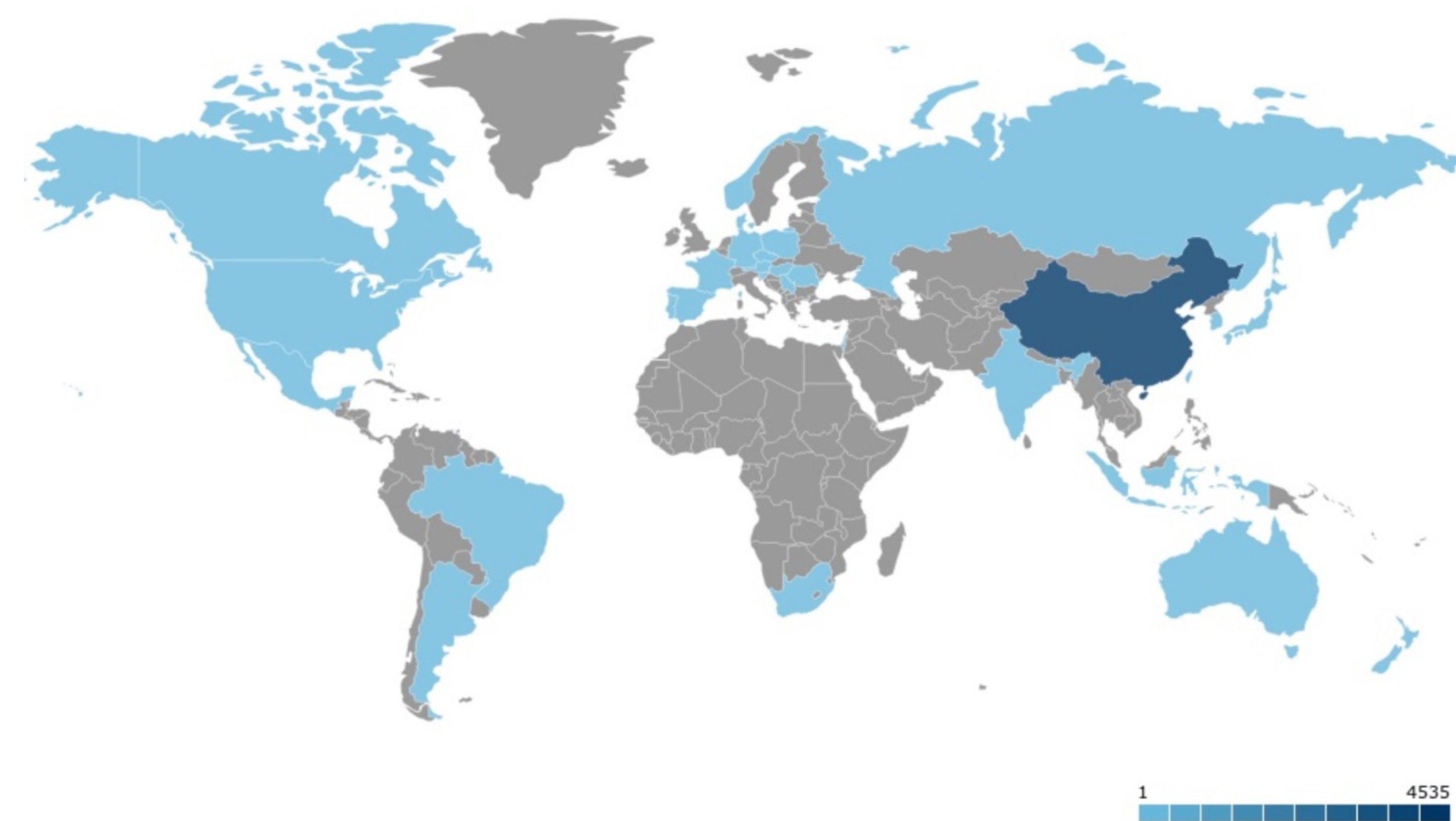


Figure 1: Publication country of the selected FAMPAT

RESULTS:

The survey returned 4,608 FamPat published between 1986 and 2022, with significant growth from 2015 onwards. China is the main publication country of the selected FAMPAT (Figure 1), as well as the top twenty assignees are from China; they have FamPat published only from 2010, and, among them, fifteen universities stand out. The main technology areas protected by these assignees are mainly within four technology domains: medical technology, food chemistry, pharmaceuticals, and furniture/games (Figure 2). Nanjing Forestry University represents the assignee with the highest portfolio value index score. No strong interactions were identified in the citation analysis among assignees, except between some research institutes in China, which suggests that there is still no publication of a pioneering portfolio or blocking patents.

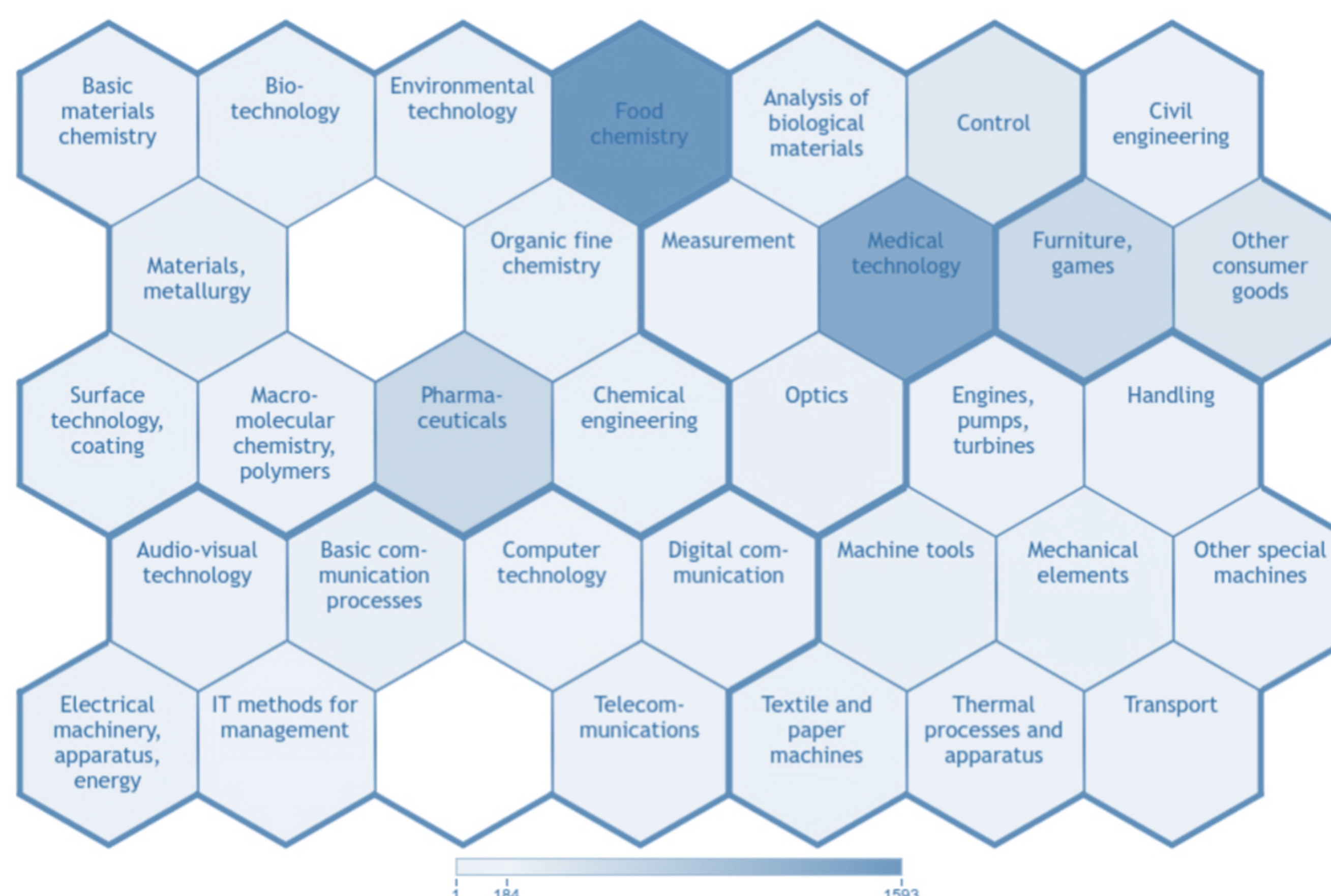


Figure 2: Technology domain of the selected FAMPAT

Among the central concepts present in FamPat, terms related to age, specific health diseases (diabetes, hypertension), food, traditional Chinese medicine, and the use of technology (mobile phone) stand out. According to the International Patent Classification, most FamPat are related to modifying the nutritional quality of foods (A23L-33/00) or technologies for assessing body conditions for preventive and diagnostic medicine purposes (A61B-5/205) (Figure 3).

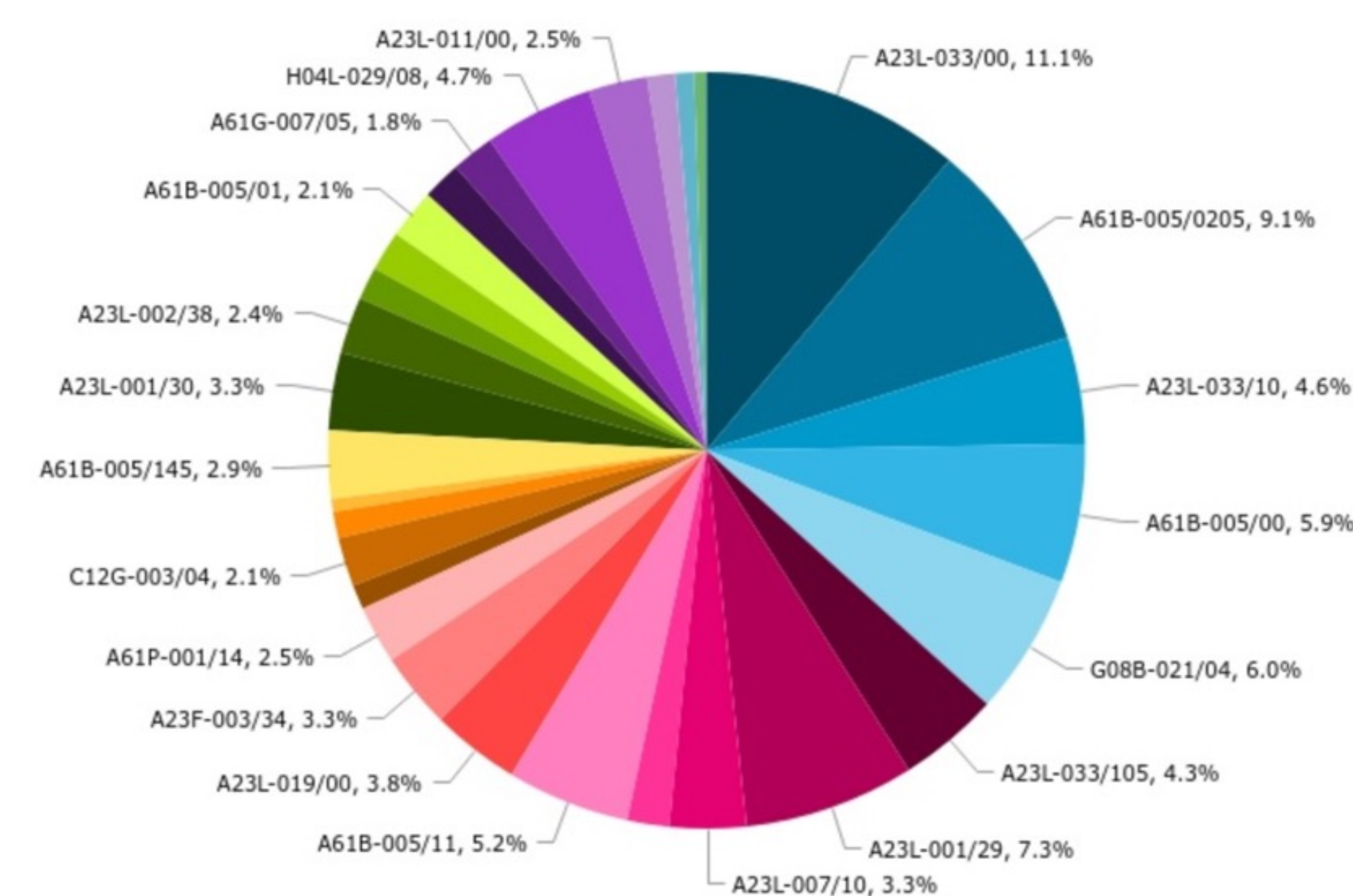


Figure 3: IPC of the selected FAMPAT

CONCLUSIONS:

Although population aging represents a global challenge, health technologies aimed at the elderly population are concentrated in China, and fortunately, they involve much more than the development of new treatments.