# Zhejiang Intelligent Library Research Background Research on the Construction Path of Wisdom Library in Wenzhou Vocational and Technical College

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#### **Abstract**

This paper investigates the current situation of the construction of the intelligent library in Zhejiang province by means of expert survey, and then obtains the level and position of the library construction of wen vocational college. In addition, it discusses the current situation and problems of the construction of the intelligent library of wen vocational college by means of text analysis, so as to find out the methods and paths to construct the intelligent library of wen vocational college.

#### **Keywords**

vocational college; intelligent library; expert survey; method; intelligent service.

#### 1. Purpose and Significance of the Research

The construction of smart library is a comprehensive and systematic project integrating multiple disciplines and technologies. It has become a new idea and practice of library innovation, transformation and sustainable development. China has also accumulated rich experience and achievements in the construction of intelligent library. For example, shenzhen yantian library and Shanghai library have made beneficial attempts and practices in intelligent building, resource recognition, user and object perception, intelligent service and intelligent management, and achieved good results, gradually realizing semi-wisdom, and effectively promoting the construction and development of intelligent library. Although great efforts and energy have been paid to the construction of intelligent library, the construction of intelligent library still faces great challenges. Other higher vocational colleges is still our education is the main force, considering the particularity of higher vocational college construction and development, its wisdom library construction should also be different from the ordinary higher education at the university of construction mode, so for the wisdom of the higher vocational college library construction of investigation and research has important reference value and practical significance.

#### 2. Research Methods

This paper adopts the content analysis method to design the questionnaire, and then collects the questionnaire through the expert survey method to carry out the statistical analysis and investigation on the current situation of the construction of intelligent library in higher vocational colleges in Zhejiang province.

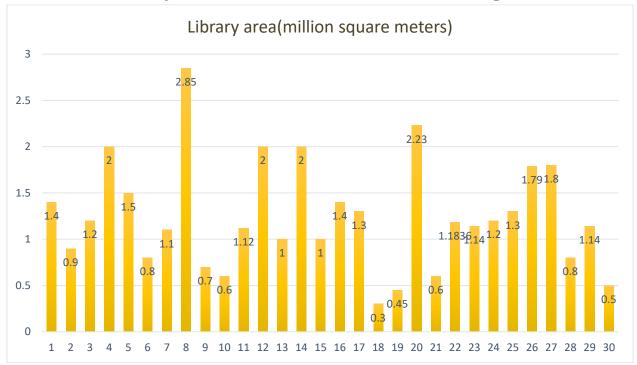
## 3. Questionnaire Design

"A library is a living organism," said ruganathan, the father of library science in India. The library is not invariable, it keeps up with the pace of The Times, is not unwilling to lag behind for a moment, always people-oriented, book-based, service-based, around the reader,

unchanged reform library management system, service mode, technology application, resource form and so on. So this article around the wisdom of library resources, library management, library services, library technology of wisdom, and wisdom library platform five aspects to carry out the questionnaire design, based on a questionnaire web questionnaire design platform thrown a total of 16 questions, questionnaire the main topic for the single topic selection, fills up the topic and multiple choice, after repeated after the completion of the questionnaire design change backwardness to 30 from Zhejiang vocational librarian to fill in the questionnaire, to ensure the accuracy of data and the range of samples and scientific.

# 4. Statistical Analysis of the Current Situation of the Construction of Intelligent Library in Higher Vocational Colleges in China

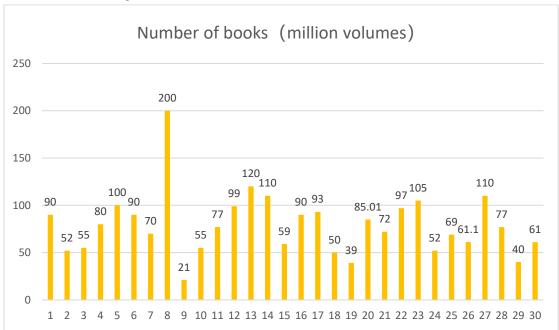
### 4.1. Statistical Analysis of Collection Area in Vocational Colleges



**Table 1.** collection area statistical analysis table

According to table 1, the libraries of the 30 vocational colleges in Zhejiang province have the least collection area of 0.3 thousand square meters and the most of 28,500 square meters, with an average area of 13,000 square meters per library. Among them, there are 11 libraries with a collection area between 0 and 10 thousand square meters, 17 libraries with a collection area between 11 and 20 thousand square meters, and 2 libraries with a collection area between 21 and 30 thousand square meters. The above statistics show that the higher vocational colleges of Zhejiang province library collection area is generally low, this may be related to higher vocational colleges teaching orientation, general is given priority to with application in higher vocational colleges, so as a training room and guest room space construction is more, the amount of space, so the library assignment will be less, may also have limited space to expand, because the original school library space cannot extend outward.

## 4.2. Statistical Analysis of Collection Resources



**Table 2.** statistical table of paper resources of collection

According to table 2, it is concluded that the library of higher vocational colleges of Zhejiang province to 30 resources at least 210000 copies, up to 2 million copies, each pavilion has an average of 790000 copies of print books, among them, the paper-based resources have 1 500000 copies of the following schools, the library resources between 50-600000 copies of six schools, the library resources between 61-700000 school has 4, the paper-based resources between 81-900000 school has 4, the paper-based resources between 91-1 million copies of the school there is 4, There are 5 schools with more than 1.01 million copies of paper resources in the library.

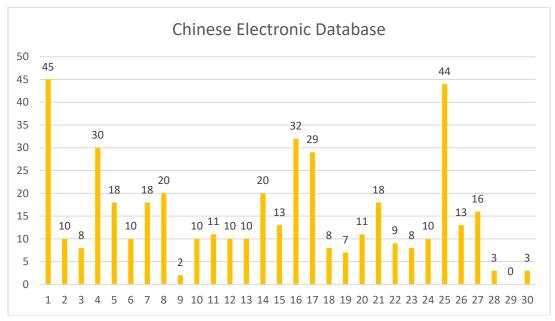
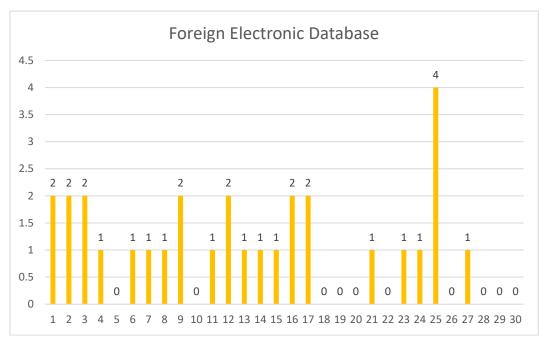


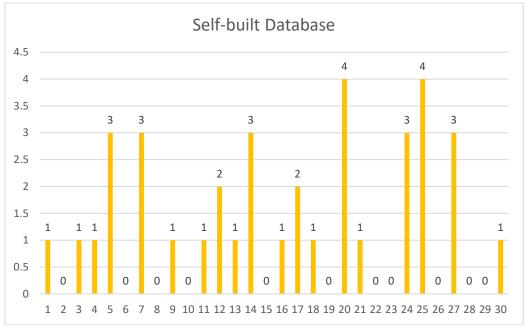
Table 3. statistics table of Chinese electronic database

According to table 3, in the libraries of 30 vocational colleges, there are 45 Chinese electronic databases at most and 0 at least, with 14 Chinese databases per library on average. There are 16 schools with Chinese electronic databases between 0 and 10, 11 school libraries with Chinese electronic databases between 11 and 30, and 3 school libraries with more than 31 Chinese electronic databases.



**Table 4.** statistical table of electronic database in foreign languages

According to table 4, a total of 10 higher vocational college libraries have no foreign language electronic database, 12 higher vocational college libraries have one foreign language electronic database, 7 higher vocational college libraries have two foreign language electronic databases, and 1 higher vocational college library has four foreign language electronic databases.



**Table 5.** database statistics of the library

According to table 5, the construction situation of self-built databases in the libraries of 30 vocational colleges in Zhejiang province is obtained, including 11 schools without self-built databases, 10 schools with 1 self-built database, 2 schools with 2 self-built databases, 5 schools with 3 self-built databases, and 2 schools with 4 self-built databases. It is concluded that 63% libraries of higher vocational colleges in Zhejiang province have their own database, which indicates that higher vocational colleges in Zhejiang province have a higher awareness of digital resource construction and can effectively utilize and develop the intelligence resources of their colleges.

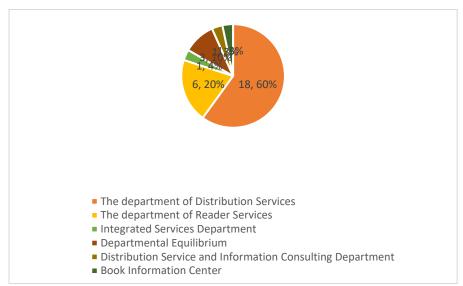
Through table 2, table 3, table 4 and table 5, it is concluded that the uneven distribution of collection resources in the libraries of higher vocational colleges in Zhejiang province indicates to some extent that schools attach different importance to library construction and have different understandings, which may also be caused by the limited financial resources of schools. Also reflect in the number of Chinese digital resources in higher vocational colleges is generally higher than that of foreign database resources, this also from the side that the utilization rate of the higher vocational colleges of Zhejiang province in Chinese database is generally higher than foreign language database, higher vocational school students demand for foreign language database rate is not high, but also could be a far higher than the price of foreign database database in Chinese.

#### **Department Setting** 7 7 5 5 5 5 5 5 4 4 4 4 3 3 3 3 3 3 3 2 2 2 1 1 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

#### 4.3. Statistical Analysis of Department Setting

**Table 6.** statistical table of quantity set by library department

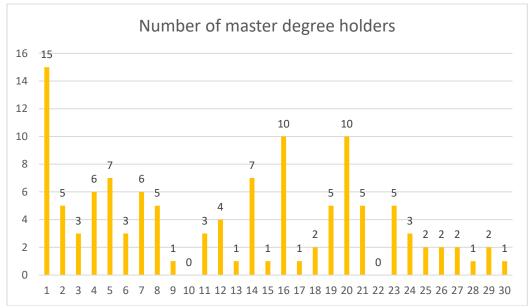
According to table 6, it is concluded that set by the department of the library in vocational schools, including 1 schools without department Settings, only one department 2 colleges, 5 colleges and universities has two departments, 8 colleges and universities have 3 department Settings, has four departments set up 6 colleges, there are five departments set up 6 colleges, 2 colleges and universities have set up seven departments. Library will generally according to the function different Settings of different departments, according to statistics, there may be a part of the higher vocational colleges of Zhejiang province library responsibility is not clear, the phenomenon of division of labor is not clear, it is also possible because collection area is limited to carry department Settings, it is possible that the high degree of wisdom only need one department can meet the demand of all readers.



**Table 7.** statistics of the largest department Settings

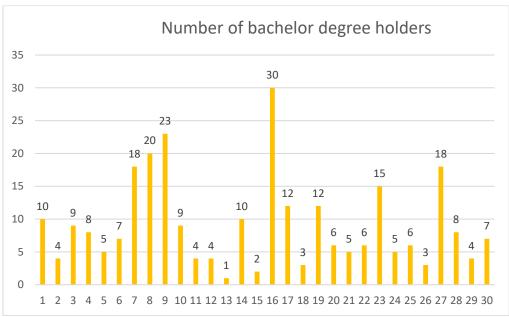
According to table 7, 30 in Zhejiang province higher vocational college library, the library of 18.6% of the largest sector of circulation service, and 6.2% of the largest department service to readers, 1.4% of the largest library departments for comprehensive service, and 3.1% of the library without the biggest department, department set up the balance, 1.3% of the largest library department for circulation and information consulting service, 1.3% of the largest library department of book information center. From the definition of smart library, we know that the circulation service of books can be realized by machine technology, sensing technology and Internet of things technology, and the construction of resources can be realized by data mining technology and data storage technology. Therefore, the core of the construction of smart library is the construction of service and culture. The data in table 6 and table 7 show that the construction of intelligent library in higher vocational colleges in Zhejiang province is still in the basic construction stage of circulation service.

## 4.4. Statistical Analysis of Academic Level of Librarians



**Table 8.** statistical table of librarian with master degree in library of higher vocational colleges in Zhejiang province

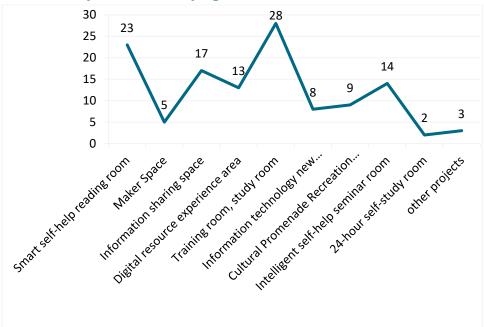
May, in accordance with table 8, it is concluded that, in the Zhejiang province higher vocational college library to 30, a master's degree in the largest number of librarians of 15 people, at least to 0, and librarians have 2 without master degree, only one master degree of university library has 6, there are two master degree of university library has 5, three have 4 master degree of university library, there are four master degree of university library has 1, five master degree of university library has 5, six have 2 master degree of university library, there are seven master degree of university library has 2, there are 10 have 2 master degree of university library.



**Table 9.** statistical table of librarians with bachelor degree in library of higher vocational colleges in Zhejiang province

According to table 9, the number of undergraduates in the libraries of the 30 vocational colleges in Zhejiang province is at most 30, and at least 1. The number of librarians with a bachelor's degree is 1-5, 11 with a bachelor's degree is 6-10, 3 with a bachelor's degree is 11-15, 3 with a bachelor's degree is 16-20, and 2 with a bachelor's degree is 21-30. Wisdom of librarian's professional ability and the quality is the precondition of one library can provide a good service and key, wisdom librarian education to a certain extent, reflects his academic ability and quality, the higher education level of librarians basically can keep up with the pace of The Times, quickly learn new things and the ability to understand and find the reader's demand in a timely and efficiently solve the problems. According to the data in table 8 and table 9, it is concluded that it basically meets the requirements of constructing intelligent library, but the proportion of librarian's academic level in most libraries still needs to be improved.

#### 4.5. Statistical Analysis of Library Space Construction

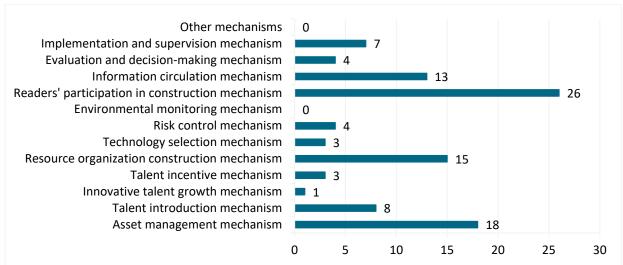


**Table 10.** statistical table of spatial construction of Zhejiang library

Note: other options: none of the above, moxiang culture area, red reading area

According to table 10, 30, Zhejiang province higher vocational colleges are basically study room and common room and reading room, information sharing space and self-help seminar room and arrange the second experience area of digital resources, followed by the information technology and new equipment experience space and cultural recreation corridor, the last is the guest room and 24-hour self-help study hall, and set up the individual library mo xiang culture area, red reading area. These show that the space construction in the library of higher vocational colleges in Zhejiang province in place, the establishment of a single reading room and study room, no longer rely on library resources according to the needs of students to set up different space is conducive to better service for readers, but the wisdom of the library of higher vocational colleges of Zhejiang province level still need to improve.

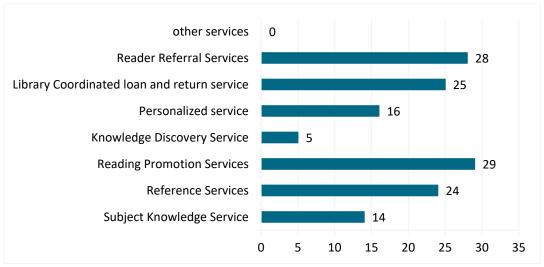
#### 4.6. Statistical Analysis of Library Management Mechanism Construction



**Table 11.** statistical table of library management mechanism in Zhejiang province

According to the table 11, 30 management mechanism of higher vocational college library by investigation in Zhejiang province, 26 library application the reader participation mechanism construction in higher vocational colleges, higher vocational college library used by 18 asset management mechanism, 15 higher vocational college library application resources organization construction mechanism, 13 higher vocational college library application execution and supervision mechanism, 8 vocational college library applied talent introduction mechanism, 7 higher vocational college library application information circulation mechanism, 4 library application evaluation and decision-making mechanism in higher vocational colleges, 13 makes use of higher vocational college library information circulation mechanism, The risk control mechanism is applied in 4 higher vocational college libraries, the technology selection mechanism is applied in 3 higher vocational college libraries, the talent incentive mechanism is applied in 3 higher vocational college libraries, the innovative talent growth mechanism is applied in 1 higher vocational college library, and the environmental monitoring mechanism is not constructed in higher vocational colleges. Can be seen from the data of Zhejiang province higher vocational colleges reader participation mechanism, the asset management mechanism, the mechanism, the resources organization construction, and the information flow mechanism has been quite mature, other about talent management mechanism, risk control, technology selection mechanism and supervision mechanism remains to be strengthen the construction, also need to attach importance to the establishment of the environmental monitoring mechanism, the gradual application of intelligent monitoring devices and sensor technology, continue to improve readers' reading, learning and research activities of environment, ensure the safety of library readers and provide better service for readers.

#### 4.7. Statistical Analysis of Library Service Types

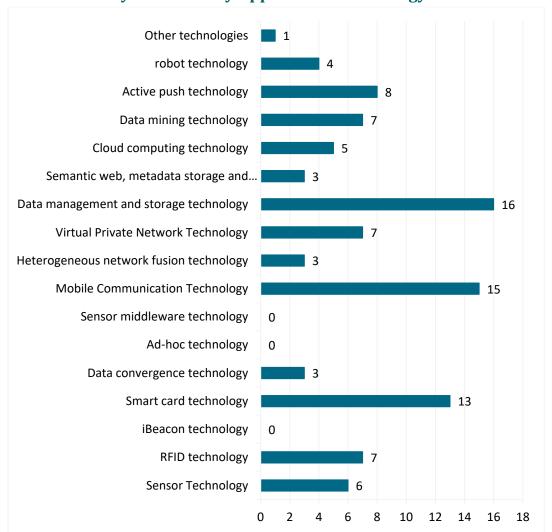


**Table 12.** statistical table of library service types of higher vocational colleges in Zhejiang province

According to table 12, 30 of the higher vocational college library service research in Zhejiang province, 29, vocational colleges libraries reading promotion service, 28, vocational colleges libraries readers recommendation service, 25 higher vocational college library applied the borrow and return service, 24, vocational colleges libraries reference service, 16 application of higher vocational college library personalization service, 14 application subject of the library knowledge service in higher vocational colleges, 5 vocational colleges library applications of knowledge discovery services. Can be seen from these data, reading promotion service, reader recommendation service, loan and return service, reference service has quite mature, suggests that the library service consciousness level is very high, the service is convenient and efficient

use of resources, ensure the readers also needs to improve personalization service and knowledge service knowledge discovery services, in particular, the service of the library service innovation and high quality, this is a challenge for intelligence library construction is also an opportunity.

#### 4.8. Statistical Analysis of Library Application Technology

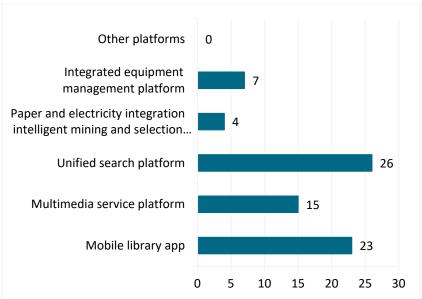


**Table 13.** statistical table of applied technology in library of higher vocational colleges in Zhejiang province

In Zhejiang province, according to the table 13 30 application technology research of higher vocational college library, 16 higher vocational college library application the data storage and management technology, 15 higher vocational college library application of the mobile communication technology, 13 library application of the smart card technology in higher vocational colleges, 8 library applications the active push technology in higher vocational colleges, 7 higher vocational college library application of data mining technology, virtual private network technology, RFID technology, 6 library application of sensor technology in higher vocational colleges, 5 vocational colleges and universities library applied the cloud computing technology, Four higher vocational college libraries have applied robot technology, three have applied semantic web, metadata storage and retrieval technology, heterogeneous network fusion technology, and data aggregation technology. From these data, we can see that the libraries of higher vocational colleges in Zhejiang province have basically realized data storage and retrieval services, realized full network coverage, self-service access management

of readers, and self-service loan service of readers. To strengthen the application of residual other technologies, virtual private network technology can help readers at any time any place to be able to access the library digital resources, cloud computing services can better help the library to realize resources sharing, and take the initiative to push technology, data digging, according to the technology, semantic metadata storage retrieval technology can help to better understand the needs and preferences of readers, can provide tailored system of service for readers, improve the quality and efficiency of library service, robot technology can better and faster help libraries to realize automatic sorting inventory and shelves and other services, the demand of the readers, Arouse readers' interest in reading in the library.

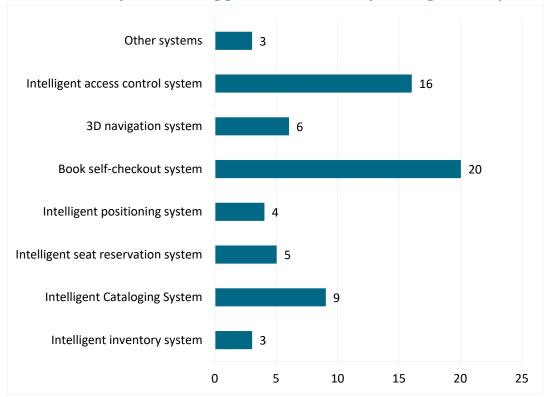
## 4.9. Statistical Analysis of Library Platform Construction



**Table 14**. statistical table of library platform construction of higher vocational colleges in Zhejiang province

According to the table 14, 30 platform construction of higher vocational college library by investigation in Zhejiang province, 26 the application of higher vocational college library retrieval platform, a unified 23 higher vocational college library applications for mobile APP, 15 higher vocational college library application of the multimedia service platform, 7 higher vocational college library application equipment integrated management platform, 4 on higher vocational college library application paper electrinity integrated intelligent acquisition platform. Can be seen from these data, the Zhejiang province higher vocational college library collection resources has been basically achieved self-service retrieval services and library resource integration system, these are going to great readers use the library resources, but the multimedia service platform of the library and equipment integrated management platform and electric integration platform development and utilization of paper, not conducive to save manpower material resources and financial resources of the library, make the management of the library is very simple and efficient.

#### 4.10. Statistical Analysis of the Application of Library Management System



**Table 15.** statistical table of application of library management system in higher vocational colleges in Zhejiang province

According to the table 15, 30, Zhejiang province, the application research of higher vocational college library management system, 20 applied the self-help circulation system in higher vocational college library, 16 library application of the intelligent entrance guard system in higher vocational colleges, 9 library application smart cataloging system in higher vocational colleges, 6 library application for 3 d navigation system in higher vocational colleges, 5 vocational colleges library application can choose seat reservation system, 4 library application functions of the positioning system in higher vocational colleges, 3 intelligent counting on the higher vocational college library application system. From these data, it can be concluded that the libraries of higher vocational colleges in Zhejiang province have basically realized self-service in and out and self-service in borrowing, and need to strengthen the development and application of intelligent cataloging and intelligent shelving system. In addition, due to the limitation of collection area, 3D navigation and positioning system are not widely used.

#### 5. Conclusion

The above statistical analysis the advantages and shortcomings of wisdom library construction in vocational schools, the construction of the library in vocational schools generally have wisdom library consciousness and good attitude, try our best to create small, fine high quality service, the deficiency in the course of the construction of but is also obvious, collection area is small, thin, resources construction, service type single and imperfect management mechanism and other problems to be solved.

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#### References

- [1] Elizabeth Blackwood. Integrating digital stewardship into library instruction: An argument for student (and librarian) success[J]. The Journal of Academic Librarianship,2019.
- [2] Rebeca Peacock, Amy Vecchione. Accessibility Best Practices, Procedures, and Policies in Northwest United States Academic Libraries [J]. The Journal of Academic Librarianship, 2019.
- [3] Erqing Jin,Lynn Wong,Yun Jiao,Jake Engel,Benjamin Holdridge,Peng Xu. Corrigendum to "Rapid evolution of regulatory element libraries for tunable transcriptional and translational control of gene expression" [Synth Syst Biotechnol 2 (4) (2017) 295–301][J]. Synthetic and Systems Biotechnology, 2019.
- [4] Victor Sayous, Paul Lubrano, Yanyan Li, Carlos G. Acevedo-Rocha. Unbiased libraries in protein directed evolution [J]. BBA Proteins and Proteomics, 2019.
- [5] Chathuni Jayathilake, Shigefumi Kumachi, Hidenao Arai, Maiko Motohashi, Takuya Terai, Akikazu Murakami, Naoto Nemoto. In vitro selection of anti-gliadin single-domain antibodies from a naïve library for cDNA-display mediated immuno-PCR[J]. Analytical Biochemistry, 2020, 589.
- [6] Teresa Valero, Daniel J. Baillache, Craig Fraser, Samuel H. Myers, Asier Unciti-Broceta. Pyrazolopyrimide library screening in glioma cells discovers highly potent antiproliferative leads that target the PI3K/mTOR pathway[J]. Bioorganic & Medicinal Chemistry, 2019.
- [7] Kenny Cheuk Hei Fong, Cheuk Hang Au, Ernest Tak Hei Lam, Dickson K.W. Chiu. Social network services for academic libraries: A study based on social capital and social proof[J]. The Journal of Academic Librarianship, 2019.
- [8] Sanderson Tarciso Pereira de Sousa, Lucélia Cabral, Gileno Vieira Lacerda-Júnior, Melline Fontes Noronha, Júlia Ronzella Ottoni, Adilson Sartoratto, Valéria Maia de Oliveira. Exploring the genetic potential of a fosmid metagenomic library from an oil-impacted mangrove sediment for metabolism of aromatic compounds [J]. Ecotoxicology and Environmental Safety, 2019.
- [9] Marshall L. Timmermans, Avena C. Ross. Unearthing Hidden Chemical Potential from Discarded Actinobacterial Libraries [J]. Trends in Biotechnology, 2019.
- [10] S. El Ouahdani, L. Erradi, H. Boukhal, E. Chakir, T. El Bardouni, Y. Boulaich, A. Ahmed. Analysis of the CREOLE experiment on the reactivity temperature coefficient of the UO 2 light water moderated lattices using Monte Carlo transport calculations and ENDF/B-VII.1 nuclear data library [J]. Nuclear Engineering and Technology, 2019.