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Web Visibility And Impact Of NAAC-Accredited Indian Universities (4th Cycle, CGPA 3.5–3.8) Using SEO Metrics: A Webometric Study

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Abstract:

The Present research paper analyses the web visibility of over 17 NAAC Accredited Universities having A++ grade, falling within the CGPA of 3.5-3.8 in the 4th Cycle. These are high performing Universities having a consistently brilliant performance over the multiple cycles of NAAC. The aim is to measure the webometric parameters of these universities as these are not directly measured by the NAAC, the ranking body set up by the UGC for maintaining the Quality in Higher Education. To study web visibility, various SEO metrics like Domain Authority, Page Authority, website traffic, Mobile-friendliness, Backlinks, SEO score, Web impact factor etc. are measured. Collection of data was done using various free tools like small seo tools, Dupli checker, Accessibility checker etc. Number of webpages were collected using BING search engine. The Research Method involved observation method. Collection of Data for the Library websites of these universities were done using Chrome Web browser and Google Search Engine. Official websites of each of these universities were visited to examine the library websites. The results show that though they are high performing universities but in terms of web-visibility, the webometric parameters need proper implementation of SEO strategies. There is significant and evident difference in the performance of webometric parameters of these universities affecting its web-visibility, web-impact and rankings over search engine results.

Keywords: Web visibility, NAAC, Webometrics, SEO metrics, Backlinks, Accessibility Checker.

Introduction:

The Paradigm shift in higher education due to digital revolution has placed the university websites at the focal point of academic communication, knowledge dissemination and accessibility over web. Webometrics is the measureable study of web and Search engine optimisation (SEO) is the set of techniques to increase the visibility of website on the search engine results. (Yalçın & Köse, 2010).In the Digital landscape it has become essential for the institutions like universities to enhance their digital web presence using this SEO techniques. Library websites of these universities holds a special importance as they provide gateways to intellectual resources, scholarly communication, and institutional transparency.

In India, the National Assessment and Accreditation Council (NAAC), is responsible to maintain quality in higher education. It evaluates the higher education on multiple parameters, with library and research contributions playing a major role in quality assessment. Indian Universities that have reached the **fourth cycle of accreditation** with CGPA scores between **3.5 and 3.8** represent the high performing institutions of sustained excellence in quality education. The present study attempts to understand how

library websites of these high performing universities, use digital platforms to leverage their scholarship and international standard services.

Literature Review:

Sandip Patel (2021) et al did a webometric analysis of **NIRF-2019 ranked 15 Indian universities** covering domain extension, domain age, backlink ,website traffic ,referring domain ,Alexa Traffic rank etc. The study also focused on research productivity of the said universities through Scopus Database. They concluded that NIRF ranked university have low visibility in terms of external link and have very poor External Web Impact factor. They recommended that the Webmasters of Universities should prepare a long term plan for the promotion of web presence to improve web visibility.

Ghosh and Roy (2021) carried out a webometric study of **NAAC-accredited general degree colleges in West Bengal**, focusing on web-based ranking and link analysis. Their findings revealed substantial variation in visibility and connectivity among college websites, with only a few demonstrating strong linkage structures and digital presence. The study highlighted the importance of link analysis as a measure of academic visibility and recommended systematic improvements in website design, accessibility, and interlinking to enhance institutional impact.

Vállez and Ventura (2020) investigated the **SEO visibility of university library websites** and their contribution to the overall web visibility of universities. The study demonstrated that well-optimized library portals significantly enhance institutional visibility, acting as key drivers of academic impact in the digital space. The authors argued that poor SEO practices limit the reach of library services and diminish a university's global standing, underscoring the strategic role of libraries in shaping digital reputation.

Verma and Brahma (2018) examined **the websites of Indian universities with *Potential for Excellence (UPE)*** status using webometric indicators such as size, visibility, rich files, and scholar metrics. Their study revealed wide disparities in digital presence, showing that even elite universities often lacked optimization and consistent maintenance. The authors stressed that improved SEO practices and richer academic content are essential for enhancing global visibility and research impact.

Objectives:

The main objective of this study is to evaluate webometric parameters of Library websites of NAAC accredited Universities of India. The objectives are as Follows:

1. Identify and compile a list of NAAC-accredited Indian universities with a CGPA between 3.5 and 3.8. in the 4th cycle.
2. To analyse SEO indicators such as Domain and Page Authority, Mobile friendliness, backlinks, website traffic and accessibility to check digital visibility and impact.
3. To find out the Internal and External links of the library websites these universities.
4. To find out the Simple Web Impact factor, External Web Impact factor and Internal Web Impact factor of the library websites these universities
5. To find out the SEO Score of these websites.

Significance of the Study:

The study is significant because it focuses on top performing Indian universities

that have consistently demonstrated excellent grades across multiple accreditation cycles in all the parameters of NAAC. The research focuses on the credibility of these top-notch universities emphasising their digital presence through library webpages/websites.

Methodology:

This study adopts a descriptive and analytical design focusing exclusively on NAAC-accredited Indian universities that have completed their **fourth cycle of accreditation** and achieved a CGPA between **3.5 and 3.8.** And having A++ Grades. This study is web-based research and the research method used is observation and survey. The Details of these universities were obtained from the official website of NAAC under the tab "Information for Institutions", where the hyperlink for Accreditation status is provided. On that Webpage **"Institutions with Valid Accreditations as on 14-08-2025"** is given. On clicking this link, a excel file gets opened, in which worksheet of university, college and transition college details are provided. Details in the University worksheet is further filtered out using filter option by Grade and CGPA. Apart from these, following tools and techniques were used for this study:

Details	Details of the tools
Mobile Friendliness	https://smallseotools.com/mobile-friendly-test/
Domain Authority and Page Authority	smallseotools.com
External links, Internal links and Total links	Duplichecker.com
SEO Score	smallseotools.com
Backlinks	https://smallseotools.com/backlink-checker/
Accessibility	https://www.accessibilitychecker.org/
Website traffic	https://app.neilpatel.com/en/traffic_analyzer
Number of Webpages	BING Search engine

Scope and Limitation:

The Present study focuses on 17 NAAC accredited Universities out of 24 Universities listed in **"Institutions with Valid Accreditations as on 14-08-2025"** Microsoft Excel file. These Universities are all A++ graded and falls under the high CGPA category. They are highly performing universities as per the parameters of NAAC.

Results and Discussion:

1. Table 1 reflects the list of NAAC Accredited Universities with their respective library websites along with their Mobile friendliness. This tool measure the responsiveness of a website on mobile phones as most of the users use mobile phone for any search and also it improves website's ranking on search engine ranking. As per the table most of the enlisted universities are passing mobile friendly test except AVINASHILINGAM INSTITUTE FOR

HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN having the lowest mobile friendly test score.

Table 1: Mobile Friendly Test of University Library Websites

Sr. No	Name of the University	Library Website	Mobile Friendliness Test
1	GURU NANAK DEV UNIVERSITY	https://library.gndu.ac.in/	88
2	ANDHRA UNIVERSITY	https://andhrauniversity.edu.in/library/dashboard.html	86
3	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	https://cl.thapar.edu/	81
4	PANJAB UNIVERSITY	https://library.puchd.ac.in/	77
5	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	http://elib.bvuict.in/moodle/course/view.php?id=42	76
6	MADURAI KAMARAJ UNIVERSITY	https://mkuniversity.ac.in/mkulib/index.php	75
7	SHIVAJI UNIVERSITY	https://www.unishivaji.ac.in/library/Library-Collection	70
8	UNIVERSITY OF JAMMU	https://jammuuniversity.ac.in/Library/Introduction	67
9	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	https://library.bits-pilani.ac.in/	65
10	UNIVERSITY OF MADRAS	https://www.unom.ac.in/webportal/uploads/library/mcl/	62
11	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	https://www.sastra.edu/infrastructure/library.html	60
12	MAHATMA GANDHI UNIVERSITY	https://library.mgu.ac.in/	59
13	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	https://www.srmist.edu.in/library/	49
14	BANGALORE UNIVERSITY	https://library-bangaloreuniversity.in/	47
15	KURUKSHETRA UNIVERSITY	https://kuk.ac.in/library-page/	44
16	BHARATHIAR UNIVERSITY	https://b-u.ac.in/166/library	40
17	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	https://avinuty.ac.in/library/home-page	20

2. Domain and Page Authority is the search engine ranking score developed by MOZ (Search Engine Optimisation Tool) to determine how well the website and webpage respectively rank on search engine result pages (SERPs). Domain authority (DA) predicts the ranking of a website on search engine result pages (SERPs) whereas Page Authority (PA) predicts the ranking of a webpage on search engine result pages. Domain & Page Authority score falls between the ranges of 1 to 100.From the table 2 its clear that BIRLA

INSTITUTE OF TECHNOLOGY AND SCIENCE,SRM INSTITUTE OF SCIENCE AND TECHNOLOGY,PANJAB UNIVERSITY are having the highest number of Domain Authority(DA) and Bangalore university having the lowest. In terms of Page Authority, most of the universities have a good scoring except for Bharati Vidyapeeth having the lowest PA amongst the other universities.

Table 2: Domain Authority and Page Authority of Websites

Sr. No	Name of the University	DA	PA
1	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	54	41
2	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	52	32
3	PANJAB UNIVERSITY	51	46
4	UNIVERSITY OF MADRAS	50	29
5	MADURAI KAMARAJ UNIVERSITY	48	24
6	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	46	38
7	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	45	30
8	BHARATHIAR UNIVERSITY	45	30
9	GURU NANAK DEV UNIVERSITY	43	37
10	KURUKSHETRA UNIVERSITY	43	29
11	ANDHRA UNIVERSITY	42	30
12	SHIVAJI UNIVERSITY	41	28
13	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	40	25
14	MAHATMA GANDHI UNIVERSITY	39	39
15	UNIVERSITY OF JAMMU	33	25
16	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	28	21
17	BANGALORE UNIVERSITY	8	28

3. Table 3 presents the website traffic of these universities. The collective number of visitors to a particular website within a specified time is called website traffic. Having a high website traffic determines the institution's web-visibility. As per the table BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE is having the highest number of website traffic followed by THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY and Panjab University whereas MADURAI KAMARAJ UNIVERSITY and ANDHRA UNIVERSITY are having the lowest website traffic.

Table 3: Website Traffic

Sr. No	Name of the University	Monthly Traffic
1	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	5362
2	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	4990
3	PANJAB UNIVERSITY	3963
4	MAHATMA GANDHI UNIVERSITY	1699
5	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	1548
6	BANGALORE UNIVERSITY	612
7	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	487
8	GURU NANAK DEV UNIVERSITY	394
9	KURUKSHETRA UNIVERSITY	223
10	UNIVERSITY OF JAMMU	96

11	UNIVERSITY OF MADRAS	23
12	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	17
13	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	7
14	BHARATHIAR UNIVERSITY	7
15	SHIVAJI UNIVERSITY	7
16	MADURAI KAMARAJ UNIVERSITY	3
17	ANDHRA UNIVERSITY	2

4. SEO Score: An SEO score is a metric that measures how well a website is optimized for search engines (SEO) and its performance in technical aspects, content, user experience and mobile responsiveness.A good SEO scores range falls between 80 and 100. SEO scores below 30 are bad. From the table 4, it is evident that BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, BHARATHIAR UNIVERSITY and BANGALORE UNIVERSITY are having the highest SEO score while BHARATI VIDYAPEETH and AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN are having the lowest SEO Score.

Table 4: SEO Score of Library Websites of Universities

Sr. No	Name of the University	SEO Score
1	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	75/100
2	BHARATHIAR UNIVERSITY	75/100
3	BANGALORE UNIVERSITY	71/100
4	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	66/100
5	GURU NANAK DEV UNIVERSITY	59/100
6	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	59/100
7	ANDHRA UNIVERSITY	58/100
8	KURUKSHETRA UNIVERSITY	58/100
9	SHIVAJI UNIVERSITY	58/100
10	UNIVERSITY OF JAMMU	54/100
11	MAHATMA GANDHI UNIVERSITY	54/100
12	PANJAB UNIVERSITY	51/100
13	UNIVERSITY OF MADRAS	50/100
14	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	47/100
15	MADURAI KAMARAJ UNIVERSITY	45/100
16	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	39/100
17	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	38/100

5. Backlinks: They are the links from other websites pointing to host's website. The more backlinks the website has the more will be the high rankings on the search engine. As per the table 5,Guru Nanak Dev University is having the highest number of backlinks followed by Panjab University and BHARATHIAR UNIVERSITY. BANGALORE UNIVERSITY is having the lowest number of backlinks.

Table 5: Number of Backlinks

Sr. No	Name of the University	Backlinks
1	GURU NANAK DEV UNIVERSITY	6168775
2	PANJAB UNIVERSITY	2278096
3	BHARATHIAR UNIVERSITY	1310524
4	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	1232146
5	MADURAI KAMARAJ UNIVERSITY	842066
6	SHIVAJI UNIVERSITY	764000
7	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	600630
8	MAHATMA GANDHI UNIVERSITY	466031
9	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	109226
10	ANDHRA UNIVERSITY	108386
11	KURUKSHETRA UNIVERSITY	85672
12	UNIVERSITY OF MADRAS	59239
13	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	56363
14	UNIVERSITY OF JAMMU	37166
15	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	24888
16	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	15490
17	BANGALORE UNIVERSITY	203

6. Accessibility checker: It is an automated tool that evaluates digital content like websites for easy accessibility for the disabled. It scans for issues like missing alternative text for images, poor colour contrast, or incorrect tagging of elements and provides suggestions for how to fix them. An accessibility score, often expressed as a percentage from 0 to 100.Score above 90 is considered to be compliant. As per the table 6 given below most of these universities are semi-compliant but rest are under noncompliance.

Table 6: Accessibility Score of these Universities

Sr. No	Name of the University	Accessibility	Compliance Score
1	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	75	semi-compliant
2	ANDHRA UNIVERSITY	74.86	semi-compliant
3	UNIVERSITY OF JAMMU	65.48	semi-compliant
4	PANJAB UNIVERSITY	63.74	semi-compliant
5	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	59.58	semi-compliant
6	KURUKSHETRA UNIVERSITY	59.36	semi-compliant
7	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	54.48	semi-compliant
8	GURU NANAK DEV UNIVERSITY	53	semi-compliant
9	SHIVAJI UNIVERSITY	51	semi-compliant
10	MADURAI KAMARAJ UNIVERSITY	45.11	semi-compliant
11	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	44.06	non-compliant

12	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	39	non-compliant
13	BHARATHIAR UNIVERSITY	38.62	non-compliant
14	BANGALORE UNIVERSITY	37.45	non-compliant
15	MAHATMA GANDHI UNIVERSITY	17	non-compliant
16	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	11	non-compliant
17	UNIVERSITY OF MADRAS	6.6	non-compliant

7. Web Impact Factor (WIF) is a webometric tool to measure the value of a particular website based on the numerous link it receives from the web divided by the total number of webpages of that particular website at that time. A website with the higher impact factor is said to have higher standing and visibility on search engines research results (SERPs).There are 3 types of Impact factor

a. **Simple Web Impact factor (SWIF)** is calculated using the ratio of all links to the number of web pages of that particular website.

b. **Internal Web Impact factor (IWIF)** is calculated using the ratio of internal links within the website to a number of web pages of a website.

c. External Web Impact Factor (EWIF) is calculated using the ratio of external links to the website by a number of web pages of a website.

Table 7: Web Impact Factor and Various Link study

Sr. No	Name of the University	Total Webpages	Internal links	External links	Total links	SWIF	IWIF	EWIF
1	PANJAB UNIVERSITY	42100	40	32	72	0.001	0.009	0.007
2	BHARATHIAR UNIVERSITY	41800	291	31	322	0.007	0.006	0.0007
3	BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE	15400	42	59	101	0.006	0.002	0.003
4	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY	12100	61	29	90	0.007	0.005	0.002
5	BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY), PUNE	4390	226	183	409	0.09	0.05	0.04
6	BANGALORE UNIVERSITY	602	54	38	92	0.1	0.08	0.06
7	MAHATMA GANDHI UNIVERSITY	602	198	8	206	0.3	0.3	0.01
8	GURU NANAK DEV UNIVERSITY	235	108	108	216	1	0.4	0.4
9	AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN	233	231	38	269	1	0.9	0.13
10	SHIVAJI UNIVERSITY	117	70	4	74	74	0.5	0.03
11	MADURAI KAMARAJ UNIVERSITY	48	14	0	14	0.2	0.2	0

12	ANDHRA UNIVERSITY	31	20	3	23	0.7	0.6	0.09
13	SHANMUGHA ARTS, SCIENCE, TECHNOLOGY AND RESEARCH ACADEMY (SASTRA) DEEMED-TO-BE-UNIVERSITY	19	132	34	166	9	7	2
14	UNIVERSITY OF JAMMU	10	221	32	253	25	22	3
15	UNIVERSITY OF MADRAS	9	15	0	15	2	2	0
16	SRM INSTITUTE OF SCIENCE AND TECHNOLOGY	7	439	112	551	78	62	16
17	KURUKSHETRA UNIVERSITY	1	90	86	176	176	90	86

As per the table 7 Panjab University and Bharathiar University is having the largest number of webpages while Kukukshetra University is having the lowest number of webpages. BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) have the highest number of external links while SRM INSTITUTE OF SCIENCE AND TECHNOLOGY is having the highest number of internal links. SRM INSTITUTE OF SCIENCE AND TECHNOLOGY is having the highest Simple Web Impact factor.

Findings and Suggestions:

- More than average of these university library websites have a good Domain Authority though improvement over Page authority needs to be done.
- Only few of enlisted university library websites are having satisfactory organic website traffic.
- Library websites having low SEO Score needs an enhanced optimisation of above mentioned parameters for better visibility and increased ranking over Search Engine Result Pages (SERPS).
- Almost all the library websites of these universities are behind in terms of accessibility checkpoints which needs to be fixed for the better inclusivity amongst the disabled users.
- Library staff should be trained in basic SEO metrics.
- Periodic Audits of these websites measuring SEO metrics by using Free/Paid SEO tools should be done to increase rankings over SERPS.

Conclusion:

The study also offers an overall perspective on the web visibility of prominent university library websites and highlights their crucial role in enhancing the search engine ranking of their parent universities. It reveal that there is substantial variation in SEO metrics of these library websites and require enhanced digital visibility by applying appropriate SEO practices. The study findings further emphasised that the library websites should strengthen their digital presence through optimised content, regular updates, external links and rich SEO metrics to match the academic excellence of these universities on the web.

References:

1. Björneborn, L., & Ingwersen, P. (2004). Toward a basic framework for Webometrics. *Journal of the American Society for Information Science and Technology*, *55*(14). https://doi.org/10.1002/asi.20077

2. Ghosh, S., & Roy, B. (2021). Web Based Ranking and Link Analysis of NAAC Accredited General Degree Colleges in West Bengal: A Webometric Study. *SRELS Journal of Information Management*, *58*, 393–407. https://doi.org/10.17821/srels/2021/v58i6/167114
3. Mehta, Dr.Jaydeep and Vyas, Dr.Meghna, "Impact of Library in NAAC for better visibility in enhancing research: An analysis of central universities in India" (2021). Library Philosophy and Practice (e-journal). 5325. https://digitalcommons.unl.edu/libphilprac/5325
4. Patel, S. S., Trivedi, D., Bhatt, A., & Chaudhari, S. (2021). *Web visibility and research productivity of NIRF ranked universities in India: A webometric study*. *Library Philosophy and Practice*, Article 5326. https://digitalcommons.unl.edu/libphilprac/5326
5. Ray. (2025). STATUS OF HIGHER EDUCATION INSTITUTIONS AFTER NAAC ASSESSMENT AND ACCREDITATION. *Zenodo*. https://doi.org/10.5281/zenodo.15737683
6. Vállez, M., & Ventura, A. (2020). Analysis of the SEO visibility of university libraries and how they impact the web visibility of their universities. *The Journal of Academic Librarianship*, *46*(4), 102171. https://doi.org/10.1016/j.acalib.2020.102171
7. Verma, M., & Brahma, K. (2018). Webometric Analysis of Websites of Indian Universities with status of Potential for Excellence (UPE). *SRELS Journal of Information Management*, *54*, 318–326. https://doi.org/10.17821/srels/2017/v54i6/111817
8. Yalcin, N., & Köse, U. (2011). What is search engine optimization: SEO? *Procedia Social and Behavioral Sciences*, *9*, 487–493. https://doi.org/10.1016/j.sbspro.2010.12.185.