Table 2. Brand name selection criteria adapted by pharmaceutical companies

Pharmacological category	Indication	Action	Property	Company	Active constituents	Constituents + company	Action + constituents	Company + property	Indication + company	Others
Gastrointestinal system	9	6	9	3	15	2	0	10		21
Endocrine-e hormones	8	3	5	0	70	23	6	0	1	31
Hepatobiliary	2	1	1	0	7	3	0	3	0	6
Genito-urinary system	7	13	4	9	33	14	8	2	0	15
Reproductive system	0	8	3	0	22	2	1	0	0	40
Immunology and allergy	29	2	6	0	16	2	2	3	1	11
Antineoplastic agents	–	–	–	–	31	27	–	–	–	15
Vitamins	2	–	–	–	29	6	–	–	–	10
Antidotes					6	1	1			5
Nervous system	10	1	0	37	17	16	2	0	0	22
ENT	0	1	0	0	5	6	0	0	2	4
Ocular	1	2	0	0	20	5	0	0	1	24
CVS	4	1	0	1	33	6	0	0	0	35
Hematological system	0	0	0	0	13	1	0	0	0	13
Respiratory system	9	0	0	1	16	3	0	0	0	19
Musculo-skeletal disorders	3	0	0	4	17	11	0	0	1	27
Anti-infective	4	0	0	4	89	18	0	0	1	17
Skin	3	0	0	1	10	0	0	0	0	20
Anesthetics	0	0	0	0	11	8	0	0	0	8

strategy companies name their drug taking into consideration active constituents and company name. This type of naming helps usually for renowned pharmaceutical companies. Physicians usually recall in their mind drug name and established reputed company name. The next type of brand naming strategy is based on indication of the drug. Ninety one brand names were based on indication of the drug. In this type of naming strategy, drug name is given based on particular disease, where the drug is supposed to cure the disease. Another naming strategy is based on action of the drugs. About 37 brands were named based on the action of drugs. Actions of drugs are the biochemical physiological mechanisms by which the chemical produces a response in living organisms. Other category includes constituent cum category cum company name, indication cum constituent and some other stylish names. Overall a majority of brand names are based on active constituents followed by combination of company name and active constituents.

Ideal brand names in the pharmaceutical industry help in increasing differentiation and create a unique image in the minds of physicians. Brand names should be clear and consistent. Pharmaceutical companies should try to create a brand for their drug which will help to deliver long lasting relationship with the healthcare professional. Hence, naming a drug is part of branding which plays a great role in the pharmaceutical industry.

1. Brand Equity; Available from: http://www.businessdictionary.com/definition/brand-equity.html#ixzz48n88ECD8 (accessed on 12 February 2016).
2. Kotler, P., In *Marketing Management*, Prentice Hall of India, New Delhi, 2000, pp. 404–418.
3. Introduction to drug action; available from: http://chemistry.elmhurst.edu/vchembook/650drugs.html (accessed on 20 May 2016).
4. Pharmaceutical drug; available from: https://en.wikipedia.org/wiki/Pharmaceutical_drug (accessed on 20 April 2016).
5. Indications for drugs (uses), approved versus non-approved; available from: http://www.medicinenet.com/script/main/art.asp?articlekey=20732 (accessed on 2 March 2016).
6. Drug profile; available from: https://wikis.engrade.com/pharmalessons/profile (accessed on 5 April 2016).
7. Overview of generic drugs and drug naming, available from: http://www.msdmanuals.com/home/drugs/brand-name-and-generic-drugs/overview-of-generic-drugs-and-drug-naming. (accessed on 2 May 2016).

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Detecting disguised plagiarism

The topic of plagiarism has been receiving its due attention in the pages of *Current Science* from time to time, the most recent one being the editorial, 'Ethics and Indian Science' that touches the issue of plagiarism among other things[1]. That plagiarism is a menace is well recognized and institutions such as the UGC have issued directives to the State and Central universities to use anti-plagiarism software to curb the pervasive problem[2]. The research institutions in India under various umbrella organizations are also increasingly employing plagiarism checking software to stave off potential

plagiarism cases in the institutes. Undoubtedly, technological measures available today are effective to detect plagiarism and act as a deterrent to some extent. The threat perception of plagiarism is so manifest that just about every higher education and research institution wants access to a plagiarism-detection software.

In the era of instant access to journals, databases and other internet-based educational and research resources, it is natural that researchers are keen to have access to the plagiarism check tools too. In some universities, every student has access to the anti-plagiarism software. But is that a preferred situation? Imagine an author writing a paper, running it through the plagiarism detection tool, moderating portions that show similarity, re-checking and iterating till the software reports 0% similarity.

Unlike electronic journals and databases, plagiarism checking tools should not be ubiquitous in an institute, because it also has cost implications. Most anti-plagiarism softwares have pricing models based on the number of pages or documents checked. So, ideally speaking, a plagiarism-checking tool should be made available only to a monitoring team or to the librarian, so that rampant use leading to potential misuse and overriding costs can be avoided.

In any case, a software is not required to disguise plagiarism. All that needs doing is to rewrite or carefully paraphrase texts so that 'similarity checking' done by the software is rendered ineffective as is the case with fabricated papers which the plagiarism tools cannot detect. The moot point is that, in spite of the availability of the 'similarity checking' based plagiarism softwares, producing seemingly clean but plagiarized copies are not difficult. This is where the concept of citation-based plagiarism detection (CbPD) comes in.

Bela Gipp in his 2013 doctoral thesis, 'Citation-based plagiarism detection: Applying citation pattern analysis to identify currently non-machine-detectable disguised plagiarism in scientific publications' showed, how well-disguised plagiarism, that otherwise is undetected by the existing plagiarism tools can be tracked by the citation-based model[3]. This model has garnered much attention, given that it goes beyond conventional similarity check and is based on analysing citation patterns of a questionable article and detects plagiarism, even if the text has been adequately disguised. To put it simplistically, citation-based plagiarism detection goes beyond checking for similarities in the text and identifies and analyses similar patterns in the citation sequences of academic documents to compute similarity. In the case of articles in non-English languages, similarity checks would be ineffective but citation checks productive. While the model does not claim to be a replacement for existing 'similarity based' plagiarism checking tools, it does open new avenues for developing or integrating the mechanism into existing plagiarism or bibliographic tools.

1. Mukhi, S., *Curr. Sci.*, 2016, **110**(6), 955–956.
2. http://www.thehindu.com/news/cities/Tiruchirapalli/ugc-mandates-universities-to-check-theses-with-antiplagiarism-software/article7938979.ece
3. Gipp, B., Citation-based plagiarism detection, 2014; http://gipp.com/wp-content/papercite-data/pdf/thesisbelagipp.pdf

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Grafted papayas: a boon for dioecious papaya industry

Papaya (*Carica papaya* L.), regarded as the 'Wonder fruit of tropics and sub tropics', belongs to the family Caricaceae. The importance of papaya to agriculture and the world's economy is demonstrated by its wide distribution, substantial production in the tropical countries, besides its high nutritive value.

As papaya is more commonly propagated from seeds, its cultivation is hindered by problems due to the inherent heterozygosity, dioecious nature and susceptibility to a large number of viral diseases. Besides, plants grown from seeds of open pollinated flowers result in a mixture of genotypes, with a considerable variation in disease susceptibility, fruit quality and yield[1]. Moreover, a wide variability in sex expression and fruit characters is usually observed even in small population. In dioecious cultivars of papaya, equal probability of male and female plant population poses the problem of rouging excess male plants. Vegetative propagation method can be an alternative to seed propagation to overcome these constraints. Plants produced by vegetative propagation through grafting are known to be true to type in preserving the genotype of cultivars in any crop.

Grafting and inarching of promising papaya hybrids and inbreds onto *V. cauliflora*, a wild resistant to PRSV-P was found to delay the symptom expression in papaya[2]. The studies related to effect of rootstocks on growth, development and fruiting of cv. Trang Nguyen on six papaya varieties selected as rootstock showed that top grafting on papaya LD-1999 gave the highest percentage of survival (83.91% and 75.15%)[3]. Both the papaya LD-1999 and Kaegdum varieties gave significantly shorter seedlings than the control. In evaluation of phenology and production of *Carica papaya* 'Honey Gold' under cool subtropical conditions[4], the vegetative propagation of selected, red fleshed hermaphrodite types ensured the production of fruits of outstanding quality for discerning markets.

The grafting success (about 80%) through cleft method in 'Eksotika' papaya at nursery stage stressed the advantage of grafted papaya trees as they bear fruits much lower and earlier and are dwarf in stature with longer economic life cycle[5]. There is also potential in utilizing rootstocks for tolerance to 'wet-feet' and soil-borne diseases. A better approach of obtaining 100% hermaphrodite stand is by cleft grafting papaya seedling using healthy disease-free scions[6]. The higher percentage of success (80%) by side grafting was obtained after 15 weeks on the vigorous, well fertilized stocks surface sterilized with 10% sodium hypochlorite[7].

Hence clonal propagation of papaya by cutting or grafting would be of great help