

**CENTER FOR DRUG EVALUATION AND
RESEARCH**

APPLICATION NUMBER:

203756Orig1s000

PROPRIETARY NAME REVIEW(S)

**Department of Health and Human Services
Public Health Service
Food and Drug Administration
Center for Drug Evaluation and Research
Office of Surveillance and Epidemiology
Office of Medication Error Prevention and Risk Management**

Proprietary Name Review

Date:	August 22, 2012
Reviewer:	James Schlick, RPh, MBA Division of Medication Error Prevention and Analysis
Team Leader	Todd Bridges, RPh Division of Medication Error Prevention and Analysis
Deputy Director	Kellie Taylor, Pharm.D., MPH Division of Medication Error Prevention and Analysis
Division Director	Carol Holquist, RPh Division of Medication Error Prevention and Analysis
Drug Name and Strengths:	Cometriq (Cabozantinib) Capsules 20 mg and 80 mg
Application Type/Number:	NDA 203756
Applicant:	Exelixis, Inc.
OSE RCM #:	2012-1231

*** This document contains proprietary and confidential information that should not be released to the public.***

CONTENTS

1	INTRODUCTION.....	1
1.1	Regulatory History.....	1
1.2	Product Information.....	1
2.2	Safety Assessment.....	2
3	CONCLUSIONS.....	4
3.1	Comments to the Applicant.....	4
4	REFERENCES.....	5
	APPENDICES.....	8

1 INTRODUCTION

This review evaluates the proposed proprietary name, Cometriq, from a safety and promotional perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively.

1.1 REGULATORY HISTORY

The proposed proprietary name, Cometriq, was found acceptable by DMEPA in OSE Review 2011-2394, dated December 2, 2011 under IND (b) (4). Exelixis submitted an NDA and the name is being re-evaluated under this NDA. The proprietary name request on May 31, 2012 is the subject of this review.

1.2 PRODUCT INFORMATION

The following product information is provided in the May 31, 2012 proprietary name submission.

- Active Ingredient: Cabozantinib (S) - malate
- Indication of Use: Indicated for the treatment of patients with progressive, unresectable locally advanced or metastatic medullary thyroid cancer (MTC).
- Route of Administration: Oral
- Dosage Form: Capsules
- Strength: 20 mg and 80 mg
- Dose and Frequency: 140 mg once daily. If dose reductions occur due to toxicity, Cometriq can be given at 100 mg and 60 mg once daily
- How Supplied:
 - 20-mg gelatin capsules are grey with “XL184 20mg” printed in black on the body of the capsule.
 - 80-mg gelatin capsules are Swedish orange with “XL184 80mg” printed in black on the body of the capsule.
- Storage: Store at 20°C to 25°C (68°F to 77°F), excursions permitted between 15°C and 30°C (between 59°F and 86°F).
- Container and Closure Systems:
 - One blister card containing a 7-day supply of capsules for a 140 mg daily dose (one 80-mg and three 20-mg capsules per dose)
 - One blister card containing a 7-day supply of capsules for a 100 mg daily dose (one 80-mg and one 20-mg capsule per dose)
 - One blister card containing a 7-day supply of capsules for a 60 mg daily dose (three 20-mg capsules per dose)
 - Bottle containing sixty 20-mg capsules

2. RESULTS

The following sections provide the information obtained and considered in the overall evaluation of the proposed proprietary name.

2.1 PROMOTIONAL ASSESSMENT

The Office of Prescription Drug Promotion OPDP determined the proposed name is acceptable from a promotional perspective. DMEPA and the Division of Oncology Products 2 (DOP2) concurred with the findings of OPDP's promotional assessment of the proposed name.

2.2 SAFETY ASSESSMENT

The following aspects of the name were considered in the safety evaluation.

2.2.1 United States Adopted Names (USAN) SEARCH

The June 19, 2012 search of the United States Adopted Name (USAN) stems did not identify that a USAN stem is present in the proposed proprietary name.

2.2.2 Components of the Proposed Proprietary Name

The Applicant indicated in their submission that the proposed name, Cometriq, is derived from the following:

- CO: a spirit of partnership with the patients or the healthcare practitioners- "COllaboration" and "COoperation" as examples.
- MET: referring to the mechanism of action- inhibition of the MET receptor tyrosine kinase.
- RIQ: the IQ ending was chosen as it is a unique suffix which enables differentiation from other product names in sound and spelling.

This proprietary name is presented as a single word. The composition does not include components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

2.2.3 FDA Name Simulation Studies

26 practitioners participated in DMEPA's prescription studies. The interpretations did not overlap with or appear or sound similar to any currently marketed products. The name Cometriq was interpreted correctly 14 out of 26 times. In the voice prescription simulation the name was misinterpreted as 'Comatrick' twice and 'Comatriq' three times. In the written prescription simulation the name Cometriq was misinterpreted as 'Cometreq' twice and 'Cometrig' twice. See Appendix C for the complete listing of interpretations from the verbal and written prescription studies.

2.2.4 Comments from Other Review Disciplines at Initial Phase of Name Review

In response to the OSE, June 19, 2012 e-mail, the Division of Oncology Products 2 (DOP2) did not forward any comments or concerns relating to the proposed name at the initial phase of the proprietary name review.

2.2.5 Failure Mode and Effects Analysis of Similar Names

Appendix B lists possible orthographic and phonetic misinterpretations of the letters appearing in the proposed proprietary name, Cometriq. Table 1 lists the names with orthographic, phonetic, or spelling similarity to the proposed proprietary name, Cometriq identified by the primary reviewer, the Expert Panel Discussion (EPD), and other review disciplines. Table 1 also includes the names identified from the FDA Prescription Simulation or by Med-ERRS, not identified by DMEPA, and requires further evaluation.

Table 1: Collective List of Potentially Similar Names (DMEPA, EPD, Other Disciplines, FDA Name Simulation Studies, and External Name Study)

Look Similar		Look Similar		Look and Sound Similar	
<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>	<i>Name</i>	<i>Source</i>
Amethyst	FDA	Ampyra	FDA	Actiq	Both
Angeliq	FDA	Carmustine	Both	Combivir	Both
Carnitor	FDA	Casodex	FDA	(b) (4)	FDA
Cenestin	FDA	Centany	FDA	Cometriq***	FDA
Centoxin	Both	Cepastat	Both	Comtrex	Both
Cogentin	Both	Combigan	FDA	(b) (4)	FDA
Comfrey	FDA	Compro	FDA	Kantrex	FDA
Comtan	Both	Concerta	Both	(b) (4)	FDA
Conray	FDA	ConZip	FDA		
Cortef	FDA	Curosurf	FDA		
Lamictal	FDA	Lomotil	FDA		
Loniten	FDA	(b) (4)	FDA		
Vontrol	FDA				

***This document contains proprietary and confidential information that should not be released to the public.

Our analysis of the 33 names contained in Table 1 considered the information obtained in the previous sections along with their product characteristics. We determined 33 names will not pose a risk for confusion as described in Appendix D through E.

2.2.6 Communication of DMEPA's Final Decision to Other Disciplines Following Promotional and Safety Review

DMEPA communicated our findings to the Division of Oncology Products 2 via e-mail on August 8, 2012. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the Division of Oncology Products 2 on August 22, 2012, they stated no additional concerns with the proposed proprietary name, Cometriq.

3 CONCLUSIONS

The proposed proprietary name is acceptable from both a promotional and safety perspective.

If you have further questions or need clarifications, please contact Sue Kang, OSE project manager, at 301-796-4216.

3.1 COMMENTS TO THE APPLICANT

We have completed our review of the proposed proprietary name, Cometriq, and have concluded that this name is acceptable. However, if any of the proposed product characteristics as stated in your May 31, 2012 submission are altered, DMEPA rescinds this finding and the name must be resubmitted for review.

Additionally, the proposed proprietary name must be re-reviewed 90 days prior to approval of the NDA. The conclusions upon re-review are subject to change.

4 REFERENCES

1. ***Micromedex Integrated Index*** (<http://csi.micromedex.com>)

Micromedex contains a variety of databases covering pharmacology, therapeutics, toxicology and diagnostics.

2. ***Phonetic and Orthographic Computer Analysis (POCA)***

POCA is a database which was created for the Division of Medication Error Prevention and Analysis, FDA. As part of the name similarity assessment, proposed names are evaluated via a phonetic/orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists which operates in a similar fashion.

3. ***Drug Facts and Comparisons, online version, St. Louis, MO***
(<http://factsandcomparisons.com>)

Drug Facts and Comparisons is a compendium organized by therapeutic course; it contains monographs on prescription and OTC drugs, with charts comparing similar products. This database also lists the orphan drugs.

4. ***FDA Document Archiving, Reporting & Regulatory Tracking System [DARRTS]***

DARRTS is a government database used to organize Applicant and Sponsor submissions as well as to store and organize assignments, reviews, and communications from the review divisions.

5. ***Division of Medication Errors Prevention and Analysis proprietary name consultation requests***

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

6. ***Drugs@FDA*** (<http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm>)

Drugs@FDA contains most of the drug products approved since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA approved brand name, generic drugs, therapeutic biological products, prescription and over-the-counter human drugs and discontinued drugs and "Chemical Type 6" approvals.

7. ***U.S. Patent and Trademark Office*** (<http://www.uspto.gov>)

USPTO provides information regarding patent and trademarks.

8. ***Clinical Pharmacology Online*** (www.clinicalpharmacology-ip.com)

Clinical Pharmacology contains full monographs for the most common drugs in clinical use, plus mini monographs covering investigational, less common,

combination, nutraceutical and nutritional products. It also provides a keyword search engine.

9. Data provided by Thomson & Thomson's SAEGIS™ Online Service, available at (www.thomson-thomson.com)

The Pharma In-Use Search database contains over 400,000 unique pharmaceutical trademarks and trade names that are used in about 50 countries worldwide. The data is provided under license by IMS HEALTH.

10. Natural Medicines Comprehensive Databases (www.naturaldatabase.com)

Natural Medicines contains up-to-date clinical data on the natural medicines, herbal medicines, and dietary supplements used in the western world.

11. Access Medicine (www.accessmedicine.com)

Access Medicine® from McGraw-Hill contains full-text information from approximately 60 titles; it includes tables and references. Among the titles are: Harrison's Principles of Internal Medicine, Basic & Clinical Pharmacology, and Goodman and Gilman's The Pharmacologic Basis of Therapeutics.

12. USAN Stems (<http://www.ama-assn.org/ama/pub/about-ama/our-people/coalitions-consortiums/united-states-adopted-names-council/naming-guidelines/approved-stems.shtml>)

USAN Stems List contains all the recognized USAN stems.

13. Red Book (www.thomsonhc.com/home/dispatch)

Red Book contains prices and product information for prescription, over-the-counter drugs, medical devices, and accessories.

14. Lexi-Comp (www.lexi.com)

Lexi-Comp is a web-based searchable version of the Drug Information Handbook.

15. Medical Abbreviations (www.medilexicon.com)

Medical Abbreviations dictionary contains commonly used medical abbreviations and their definitions.

16. CVS/Pharmacy (www.CVS.com)

This database contains commonly used over the counter products not usually identified in other databases.

17. Walgreens (www.walgreens.com)

This database contains commonly used over the counter products not usually identified in other databases.

18. Rx List (www.rxlist.com)

RxList is an online medical resource dedicated to offering detailed and current pharmaceutical information on brand and generic drugs.

19. Dogpile (www.dogpile.com)

Dogpile is a [Metasearch](#) engine that searches multiple search engines including Google, Yahoo! and Bing, and returns the most relevant results to the search.

20. Natural Standard (<http://www.naturalstandard.com>)

Natural Standard is a resource that aggregates and synthesizes data on complementary and alternative medicine.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment considers the promotional and safety aspects of a proposed proprietary name. The promotional review of the proposed name is conducted by OPDP. OPDP evaluates proposed proprietary names to determine if they are overly fanciful, so as to misleadingly imply unique effectiveness or composition, as well as to assess whether they contribute to overstatement of product efficacy, minimization of risk, broadening of product indications, or making of unsubstantiated superiority claims. OPDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.

The safety assessment is conducted by DMEPA. DMEPA staff search a standard set of databases and information sources to identify names that are similar in pronunciation, spelling, and orthographically similar when scripted to the proposed proprietary name. Additionally, we consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.). DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer.¹

Following the preliminary screening of the proposed proprietary name, DMEPA gathers to discuss their professional opinions on the safety of the proposed proprietary name. This meeting is commonly referred to the Center for Drug Evaluation and Research (CDER) Expert Panel discussion. DMEPA also considers other aspects of the name that may be misleading from a safety perspective. DMEPA staff conducts a prescription simulation studies using FDA health care professionals. When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name. DMEPA bases the overall risk assessment on the findings of a Failure Mode and Effects Analysis (FMEA) of the proprietary name and misleading nature of the proposed proprietary name with a focus on the avoidance of medication errors.

DMEPA uses the clinical expertise of its staff to anticipate the conditions of the clinical setting where the product is likely to be used based on the characteristics of the proposed product. DMEPA considers the product characteristics associated with the proposed product throughout the risk assessment because the product characteristics of the proposed may provide a context for communication of the drug name and ultimately determine the use of the product in the *usual* clinical practice setting.

¹ National Coordinating Council for Medication Error Reporting and Prevention.
<http://www.nccmerp.org/aboutMedErrors.html>. Last accessed 10/11/2007.

Typical product characteristics considered when identifying drug names that could potentially be confused with the proposed proprietary name include, but are not limited to; established name of the proposed product, proposed indication of use, dosage form, route of administration, strength, unit of measure, dosage units, recommended dose, typical quantity or volume, frequency of administration, product packaging, storage conditions, patient population, and prescriber population. DMEPA considers how these product characteristics may or may not be present in communicating a product name throughout the medication use system. Because drug name confusion can occur at any point in the medication use process, DMEPA considers the potential for confusion throughout the entire U.S. medication use process, including drug procurement, prescribing and ordering, dispensing, administration, and monitoring the impact of the medication.²

DMEPA considers the spelling of the name, pronunciation of the name when spoken, and appearance of the name when scripted. DMEPA compares the proposed proprietary name with the proprietary and established name of existing and proposed drug products and names currently under review at the FDA. DMEPA compares the pronunciation of the proposed proprietary name with the pronunciation of other drug names because verbal communication of medication names is common in clinical settings. DMEPA examines the phonetic similarity using patterns of speech. If provided, DMEPA will consider the Sponsor's intended pronunciation of the proprietary name. However, DMEPA also considers a variety of pronunciations that could occur in the English language because the Sponsor has little control over how the name will be spoken in clinical practice. The orthographic appearance of the proposed name is evaluated using a number of different handwriting samples. DMEPA applies expertise gained from root-cause analysis of postmarketing medication errors to identify sources of ambiguity within the name that could be introduced when scripting (e.g., "T" may look like "F," lower case 'a' looks like a lower case 'u,' etc). Additionally, other orthographic attributes that determine the overall appearance of the drug name when scripted (see Table 1 below for details).

² Institute of Medicine. Preventing Medication Errors. The National Academies Press: Washington DC. 2006.

Table 1. Criteria Used to Identify Drug Names that Look- or Sound-Similar to a Proposed Proprietary Name.

Type of Similarity	Considerations when Searching the Databases		
	<i>Potential Causes of Drug Name Similarity</i>	<i>Attributes Examined to Identify Similar Drug Names</i>	<i>Potential Effects</i>
Look-alike	Similar spelling	Identical prefix Identical infix Identical suffix Length of the name Overlapping product characteristics	- Names may appear similar in print or electronic media and lead to drug name confusion in printed or electronic communication - Names may look similar when scripted and lead to drug name confusion in written communication
	Orthographic similarity	Similar spelling Length of the name/Similar shape Upstrokes Down strokes Cross-strokes Dotted letters Ambiguity introduced by scripting letters Overlapping product characteristics	Names may look similar when scripted, and lead to drug name confusion in written communication
Sound-alike	Phonetic similarity	Identical prefix Identical infix Identical suffix Number of syllables Stresses Placement of vowel sounds Placement of consonant sounds Overlapping product characteristics	Names may sound similar when pronounced and lead to drug name confusion in verbal communication

Lastly, DMEPA considers the potential for the proposed proprietary name to inadvertently function as a source of error for reasons other than name confusion. Post-marketing experience has demonstrated that proprietary names (or components of the proprietary name) can be a source of error in a variety of ways. Consequently, DMEPA considers and evaluates these broader safety implications of the name throughout this assessment and the medication error staff provides additional comments related to the

safety of the proposed proprietary name or product based on professional experience with medication errors.

1. Database and Information Sources

DMEPA searches the internet, several standard published drug product reference texts, and FDA databases to identify existing and proposed drug names that may sound-alike or look-alike to the proposed proprietary name. A standard description of the databases used in the searches is provided in the reference section of this review. To complement the process, the DMEPA uses a computerized method of identifying phonetic and orthographic similarity between medication names. The program, Phonetic and Orthographic Computer Analysis (POCA), uses complex algorithms to select a list of names from a database that have some similarity (phonetic, orthographic, or both) to the trademark being evaluated. Lastly, DMEPA reviews the USAN stem list to determine if any USAN stems are present within the proprietary name. The individual findings of multiple safety evaluators are pooled and presented to the CDER Expert Panel. DMEPA also evaluates if there are characteristics included in the composition that may render the name unacceptable from a safety perspective (abbreviation, dosing interval, etc.).

2. Expert Panel Discussion

DMEPA gathers CDER professional opinions on the safety of the proposed product and discusses the proposed proprietary name (Expert Panel Discussion). The Expert Panel is composed of Division of Medication Errors Prevention (DMEPA) staff and representatives from the Office of Prescription Drug Promotion (OPDP). We also consider input from other review disciplines (OND, ONDQA/OBP). The Expert Panel also discusses potential concerns regarding drug marketing and promotion related to the proposed names.

The primary Safety Evaluator presents the pooled results of the database and information searches to the Expert Panel for consideration. Based on the clinical and professional experiences of the Expert Panel members, the Panel may recommend additional names, additional searches by the primary Safety Evaluator to supplement the pooled results, or general advice to consider when reviewing the proposed proprietary name.

3. FDA Prescription Simulation Studies

Three separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions or verbal pronunciation of the drug name. The studies employ healthcare professionals (pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify orthographic or phonetic vulnerability of the proposed name to be misinterpreted by healthcare practitioners.

In order to evaluate the potential for misinterpretation of the proposed proprietary name in handwriting and verbal communication of the name, inpatient medication orders and/or outpatient prescriptions are written, each consisting of a combination of marketed and unapproved drug products, including the proposed name. These orders are optically

scanned and one prescription is delivered to a random sample of participating health professionals via e-mail. In addition, a verbal prescription is recorded on voice mail. The voice mail messages are then sent to a random sample of the participating health professionals for their interpretations and review. After receiving either the written or verbal prescription orders, the participants record their interpretations of the orders which are recorded electronically.

4. Comments from Other Review Disciplines

DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

5. Safety Evaluator Risk Assessment of the Proposed Proprietary Name

The primary Safety Evaluator applies his/her individual expertise gained from evaluating medication errors reported to FDA, considers all aspects of the name that may be misleading or confusing, conducts a Failure Mode and Effects Analysis, and provides an overall decision on acceptability dependent on their risk assessment of name confusion. Failure Mode and Effects Analysis (FMEA) is a systematic tool for evaluating a process and identifying where and how it might fail.³ When applying FMEA to assess the risk of a proposed proprietary name, DMEPA seeks to evaluate the potential for a proposed proprietary name to be confused with another drug name because of name confusion and, thereby, cause errors to occur in the medication use system. FMEA capitalizes on the predictable and preventable nature of medication errors associated with drug name confusion. FMEA allows the Agency to identify the potential for medication errors due to orthographically or phonetically similar drug names prior to approval, where actions to overcome these issues are easier and more effective than remedies available in the post-approval phase.

In order to perform an FMEA of the proposed name, the primary Safety Evaluator must analyze the use of the product at all points in the medication use system. Because the proposed product is has not been marketed, the primary Safety Evaluator anticipates the use of the product in the usual practice settings by considering the clinical and product

³ Institute for Healthcare Improvement (IHI). Failure Mode and Effects Analysis. Boston. IHI:2004.

characteristics listed in Section 1.2 of this review. The Safety Evaluator then analyzes the proposed proprietary name in the context of the usual practice setting and works to identify potential failure modes and the effects associated with the failure modes.

In the initial stage of the Risk Assessment, the Safety Evaluator compares the proposed proprietary name to all of the names gathered from the above searches, Expert Panel Discussion, and prescription studies, external studies, and identifies potential failure modes by asking:

“Is the proposed proprietary name convincingly similar to another drug name, which may cause practitioners to become confused at any point in the usual practice setting? And are there any components of the name that may function as a source of error beyond sound/look-alike?”

An affirmative answer indicates a failure mode and represents a potential for the proposed proprietary name to be confused with another proprietary or established drug name because of look- or sound-alike similarity or because of some other component of the name. If the answer to the question is no, the Safety Evaluator is not convinced that the names possess similarity that would cause confusion at any point in the medication use system, thus the name is eliminated from further review.

In the second stage of the Risk Assessment, the primary Safety Evaluator evaluates all potential failure modes to determine the likely *effect* of the drug name confusion, by asking:

“Could the confusion of the drug names conceivably result in medication errors in the usual practice setting?”

The answer to this question is a central component of the Safety Evaluator’s overall risk assessment of the proprietary name. If the Safety Evaluator determines through FMEA that the name similarity would not ultimately be a source of medication errors in the usual practice setting, the primary Safety Evaluator eliminates the name from further analysis. However, if the Safety Evaluator determines through FMEA that the name similarity could ultimately cause medication errors in the usual practice setting, the Safety Evaluator will then recommend the use of an alternate proprietary name.

Moreover, DMEPA will object to the use of proposed proprietary name when the primary Safety Evaluator identifies one or more of the following conditions in the Overall Risk Assessment:

- a. OPDP finds the proposed proprietary name misleading from a promotional perspective, and the Review Division concurs with OPDP’s findings. The Federal Food, Drug, and Cosmetic Act provides that labeling or advertising can misbrand a product if misleading representations are made or suggested by statement, word, design, device, or any combination thereof, whether through a PROPRIETARY name or otherwise [21 U.S.C 321(n); See also 21 U.S.C. 352(a) & (n)].
- b. DMEPA identifies that the proposed proprietary name is misleading because of similarity in spelling or pronunciation to another proprietary or established name of a different drug or ingredient [CFR 201.10.(C)(5)].

- c. FMEA identifies the potential for confusion between the proposed proprietary name and other proprietary or established drug name(s), and demonstrates that medication errors are likely to result from the drug name confusion under the conditions of usual clinical practice.
- d. The proposed proprietary name contains an USAN (United States Adopted Names) stem.
- e. DMEPA identifies a potential source of medication error within the proposed proprietary name. For example, the proprietary name may be misleading or, inadvertently, introduce ambiguity and confusion that leads to errors. Such errors may not necessarily involve confusion between the proposed drug and another drug product but involve a naming characteristic that when incorporated into a proprietary name, may be confusing, misleading, cause or contribute to medication errors.

If DMEPA objects to a proposed proprietary name on the basis that drug name confusion could lead to medication errors, the primary Safety Evaluator uses the FMEA process to identify strategies to reduce the risk of medication errors. DMEPA generally recommends that the Sponsor select an alternative proprietary name and submit the alternate name to the Agency for review. However, in rare instances FMEA may identify plausible strategies that could reduce the risk of medication error of the currently proposed name. In that instance, DMEPA may be able to provide the Sponsor with recommendations that reduce or eliminate the potential for error and, thereby, would render the proposed name acceptable.

In the event that DMEPA objects to the use of the proposed proprietary name, based upon the potential for confusion with another proposed (but not yet approved) proprietary name, DMEPA will provide a contingency objection based on the date of approval. Whichever product, the Agency approves first has the right to use the proprietary name, while DMEPA will recommend that the second product to reach approval seek an alternative name.

The threshold set for objection to the proposed proprietary name may seem low to the Applicant/Sponsor. However, the safety concerns set forth in criteria a through e above are supported either by FDA regulation or by external healthcare authorities, including the Institute of Medicine (IOM), World Health Organization (WHO), the Joint Commission, and the Institute for Safe Medication Practices (ISMP). These organizations have examined medication errors resulting from look- or sound-alike drug names, confusing, or misleading names and called for regulatory authorities to address the issue prior to approval. Additionally, DMEPA contends that the threshold set for the Proprietary Name Risk Assessment is reasonable because proprietary drug name confusion is a predictable and preventable source of medication error that, in many instances, the Agency and/or Sponsor can identify and rectify prior to approval to avoid patient harm.

Furthermore, post-marketing experience has demonstrated that medication errors resulting from drug name confusion are notoriously difficult to rectify post-approval. Educational and other post-approval efforts are low-leverage strategies that have had limited effectiveness at alleviating medication errors involving drug name confusion. Sponsors have undertaken higher-leverage strategies, such as drug name changes, in the

past but at great financial cost to the Sponsor and at the expense of the public welfare, not to mention the Agency's credibility as the authority responsible for approving the error-prone proprietary name. Moreover, even after Sponsors' have changed a product's proprietary name in the post-approval phase, it is difficult to eradicate the original proprietary name from practitioners' vocabulary, and as a result, the Agency has continued to receive reports of drug name confusion long after a name change in some instances. Therefore, DMEPA believes that post-approval efforts at reducing name confusion errors should be reserved for those cases in which the potential for name confusion could not be predicted prior to approval.

Appendix B: Letters with Possible Orthographic or Phonetic Misinterpretation

Letters in Name, Cometriq	Scripted May Appear as	Spoken May Be Interpreted as
Capital 'C'	A, G, L, O, V	Z, K
Lower case 'c'	a, e, i, l, s	z, k
Lower case 'o'	a, c, e, u	oh
Lower case 'm'	m, nn, n, v, w, wi, vi, onc, z, r	n
Lower case 'e'	a, i, l, p	any vowel
Lower case 't'	r, f, x, A, b	d
Lower case 'r'	s, n, e, v	
Lower case 'i'	e, o	e
Lower case 'q'	g, j, z, y	k

Appendix C: Prescription Simulation Samples and Results

Figure 1. Cometriq Study (Conducted on June 8, 2012)

Handwritten Requisition Medication Order	Verbal Prescription
<u>Medication Order:</u> <i>Cometriq 20mg 5 capsules once daily</i>	Cometriq 100 mg Sig: Use as Directed Disp #1 box
<u>Outpatient Prescription:</u> <i>Cometriq 100mg #1 box UAP</i>	

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

84 People Received Study				
26 People Responded				
Study Name: Cometriq				
Total	6	8	12	26
INTERPRETATION	INPATIENT	VOICE	OUTPATIENT	TOTAL
COMATREKE	0	1	0	1
COMATRICK	0	2	0	2
COMATRIQ	0	3	0	3
COMETREQ	2	0	0	2
COMETRIG	1	0	1	2
COMETRIQ	3	0	11	14
COMITRICK	0	1	0	1
COMITRIK	0	1	0	1

Appendix D: Proprietary names not likely to be confused or not used in usual practice settings for the reasons described.

	Proprietary Name	Active Ingredient	Similarity to Cometriq	Failure preventions
1	Amethyst	Ethinyl Estradiol/ Levonorgestrel	Look alike	The pair has sufficient orthographic differences
2	Ampyra	Dalfampridine	Look alike	The pair has sufficient orthographic differences
3	ConZip	Tramadol	Look alike	The pair has sufficient orthographic differences
4	Vontrol	Diphenidol	Look alike	The pair has sufficient orthographic differences
5	Carmustine	Established Name for Gliadel, BiCNU, BCNU	Look alike	The pair has sufficient orthographic differences
6	Centoxin	Nebacumab	Look alike	Only name identified in Micromedex database. Unable to find product characteristics in other commonly used drug databases. Micromedex states product was removed from market due to lack of efficacy.
7	Combivir	Lamivudine/Zidovudine	Look and sound alike	The pair has sufficient orthographic and phonetic differences
8	(b) (4)		Look and sound alike	(b) (4)
9	Cometriq***	Cabozantinib	Look and sound alike	Cometriq is a registered trademark name owned by Exelixis. Exelixis is the applicant for this NDA.
10	(b) (4)		Look and sound alike	(b) (4)
11	(b) (4)		Look alike	(b) (4)

*** This document contains proprietary and confidential information that should not be released to the public.

Appendix E: Risk of medication errors due to product confusion minimized by dissimilarity of the names and/ or use in clinical practice for the reasons described.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
1			

(b) (4)

*** This document contains proprietary and confidential information that should not be released to the public.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
2	Kantrex (Kanamycin) Solution for Injection 1 gram/3 mL Usual Dose: Intramuscular or Intravenously – 15 mg/kg/day in divided doses Nebulizer- 250 mg in 3 mL of saline twice daily to four times daily Intraperitoneal- 500 mg in 20 mL sterile water instilled intraperitoneally	<u>Orthographic:</u> The letter string ‘an’ in Kantrex can look similar to the letter string ‘om’ in Cometriq when scripted. The letter string ‘tre’ in Kantrex can look similar to the letter string ‘tri’ in Cometriq when scripted. <u>Phonetic:</u> The letter string ‘Kan’ is phonetically similar to the letter string ‘Com’. The letter string ‘trex’ is phonetically similar to the letter string ‘triq’. <u>Frequency of Administration:</u> Both products can be given as once daily <u>Dose:</u> Kantrex can be dosed at 140 mg based on weight which overlaps with the 140 mg dose of Cometriq	<u>Orthographic:</u> The letter ‘K’ and the letter ‘C’ in Cometriq are not orthographically similar when scripted. Cometriq has a downstroke letter ‘q’ at the end of the name while Kantrex does not have a downstroke letter at the end of the name. <u>Phonetic:</u> Kantrex contains two syllables while Cometriq contains three syllables. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between strengths.
3	Angeliq (Drospirenone/Estradiol) Tablet 0.25mg-0.5 mg 0.5 mg-1 mg Usual Dose: 1 tablet by mouth daily	<u>Orthographic:</u> The letter ‘A’ in Angeliq can look similar to the letter ‘C’ in Cometriq when scripted. Both names have the letter string ‘iq’ at the end of the name. <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products are given once daily	<u>Orthographic:</u> Angeliq has two downstroke letters in the name where Cometriq has only one downstroke letter. Cometriq has a cross stroke letter ‘t’ in the middle of the name while Angeliq has an upstroke letter ‘l’ in the middle of the name. <u>Dose:</u> There is no overlap or numerical similarity in dose <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between strengths.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
4	Carnitor (Levocarnitine) Tablet, Oral Solution, Solution for Injection Tablet – 330 mg, 250 mg Oral Solution- 1 gram/10 mL Injection- 200 mg/mL Usual Dose: Adults – 990 mg 2 to 3 times per day with food Pediatric: 50 mg/kg/day in divided doses	<u>Orthographic:</u> The letter string ‘Carni’ can look similar to the letter string ‘Come’ when scripted. Both names have the cross stroke letter ‘t’ in the middle of the name. <u>Dose:</u> A pediatric dose of Carnitor can overlap with a Cometriq dose. <u>Route of Administration:</u> Both products can be given orally	<u>Orthographic:</u> Cometriq contains a downstroke letter ‘q’ at the end of the name where Carnitor does not contain a downstroke letter. <u>Strength:</u> Both products have multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between strengths.
5	Casodex (Bicalutamide) Tablet 50 mg Usual Dose: 1 tablet once daily	<u>Orthographic:</u> The letter string ‘Cas’ can look similar to the letter string ‘Com’ when scripted. <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products are given once daily <u>Settings of Use:</u> Both products are used in the oncology setting <u>Dose:</u> A numerically achievable dose of 100 mg can be obtained with the 50 mg Casodex tablets	<u>Orthographic:</u> Cometriq has the cross stroke letter ‘t’ in the middle of the name while Casodex has the upstroke letter ‘d’ in the middle of the name. Cometriq has a downstroke letter ‘q’ in the middle of the name while Casodex does not have a downstroke letter at the end of the name. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between strengths.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
6	Cenestin (Conjugated Estrogen) Tablet 0.3 mg, 0.45 mg, 0.625 mg, 0.9 mg, 1.25 mg Usual Dose: 1 tablet once daily for 21 days followed by a 7 day drug free interval in a 28 day cycle	<u>Orthographic:</u> The letter string 'Cene' can look similar to the letter string 'Come' when scripted. Both names have the cross stroke letter 't' near the end of the name. <u>Frequency of Administration:</u> Both products are given once daily <u>Route of Administration:</u> Both products are given orally	<u>Orthographic:</u> Cometriq has a downstroke letter 'q' at the end of the name while Cenestin does not. Cenestin has the letter 's' between the letter 'e' and the letter 't' while Cometriq does not. This may provide additional orthographic difference. <u>Dose:</u> There is no overlap or numerical similarity between products <u>Strength:</u> There is no overlap or numerical similarity between products
7	Centany (Mupirocin) Ointment 2% Usual Dose: Apply to affected area two to three times daily	<u>Orthographic:</u> The letter string 'Cen' can look similar to the letter string 'Com' when scripted. Both names contain a cross stroke letter 't' in the middle of the name and a downstroke letter at the end of the name.	<u>Orthographic:</u> The letter string 'ri' between the cross stroke letter 't' and the downstroke letter 'q' in Cometriq does not look similar to the letter string 'an' between the cross stroke letter 't' and the downstroke letter 'y' in Centany. The name Cometriq has the letter 'e' between the letters 'm' and 't' while the name Centany does not have the letter 'e' between the letter 'n' and the letter 't'. This may provide additional orthographic difference. <u>Dose:</u> There is no overlap in dose <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
8	Cepastat (Phenol) Lozenge 14.5% Usual Dose: Up to 2 lozenges every 2 hours as needed	<u>Orthographic:</u> The letter string 'Ce' in Cepastat can look similar to the letter string 'Co' in Cometriq when scripted. Both names have a cross stroke letter 't' in the middle of the name. <u>Route of Administration:</u> Both products are given orally	<u>Orthographic:</u> Cometriq has a downstroke letter at the end of the name where Cepastat has a cross stroke letter 't' at the end of the name. Cepastat has a downstroke letter at the third position while Cometriq does not. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths. <u>Frequency of Administration:</u> Once daily vs. every 2 hours as needed
9	Cogentin (Benztropine) Tablet and Solution for Injection Tablet - 0.5 mg, 1 mg, 2 mg Injection – 2 mg/ 2 mL Usual Dose: 0.5 mg to 6 mg orally or intramuscularly once or twice daily	<u>Orthographic:</u> Both names begin with the letter string 'Co'. Both names have the letter 't' in similar positions . <u>Frequency of Administration:</u> Both products can be given once daily <u>Route of Administration:</u> Both products are given orally	<u>Orthographic:</u> Cogentin has a downstroke letter 'g' in the third position while Cometriq does not. Cometriq has a downstroke letter 'q' at the end of the name while Cogentin does not. <u>Dose:</u> There is no overlap or numerical similarity between products <u>Strength:</u> Both products have multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between products

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
10	Combigan (Brimonidine/ Timolol) Ophthalmic Solution 0.2%/0.5% Usual Dose: One drop in affected eye twice daily	<u>Orthographic:</u> Both names begin with the letter string 'Com'.	<u>Orthographic:</u> Cometriq has a cross stroke letter 't' in the middle of the name where Combigan has an upstroke letter 'b' in the middle of the name. Combigan has a downstroke letter 'g' in the sixth position while Cometriq does not. Cometriq has a downstroke letter 'q' at the end of the name while Combigan does not. <u>Dose:</u> There is no overlap in dose <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths.
11	Comfrey Herbal Supplement Ointment Cream Dried Root Powder Tincture Leaf Usual Dose: Ointment and Cream- Apply as directed Dried Root Powder, Tincture, Leaf – Add to tea or liquid and drink as directed	<u>Orthographic:</u> Both names begin the letter string 'Com'. Both names end with downstroke letters. <u>Route of Administration:</u> Both products can be given orally	<u>Orthographic:</u> Comfrey has an upstroke and downstroke letter 'f' in the middle of the name while Cometriq has a cross stroke letter 't' in the middle of the name. The name Cometriq has the letter 'e' between the letters 'm' and 't' while the name Comfrey does not have the letter 'e' between the letter 'm' and the letter 'f'. This may provide additional orthographic difference. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
12	Compro (Prochlorperazine) Rectal Suppository 25 mg Usual Dose: 1 suppository rectally twice daily	<u>Orthographic:</u> Both names begin with the letter string 'Com'.	<u>Orthographic:</u> Cometriq contains a cross stroke letter 't' in the middle of the name while Compro contains a downstroke letter 'p' in the middle of the name. Cometriq contains a downstroke letter at the end of the name while Compro does not. Cometriq (8 letters) appears longer than Compro (6 letters) when scripted. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths.
13	Comtan (Entacapone) Tablet 200 mg Usual Dose: Give 1 tablet with Carbidopa and Levodopa up to eight times per day	<u>Orthographic:</u> Both names begin with the letter string 'Com'. Both names have the cross stroke letter 't' in the middle of the name. <u>Dose:</u> An achievable dose of 100 mg can be obtained for both products. <u>Strength:</u> There is numerical similarity with the 20 mg Cometriq capsule and the 200 mg Comtan tablet. <u>Route of Administration:</u> Both products are given orally	<u>Orthographic:</u> Cometriq contains a downstroke letter 'q' at the end of the name while Comtan does not. Cometriq (8 letters) appears longer than Comtan (6 letters) when scripted.

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
14	Concerta (Methylphenidate) Extended Release Tablet 18 mg, 27 mg, 36 mg, 54 mg Usual Dose: 18 mg to 72 mg once daily	<u>Orthographic:</u> The letter string 'Con' can look similar to the letter string 'Com' when scripted. <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products are given once daily	<u>Orthographic:</u> Cometriq contains a downstroke letter 'q' at the end of the name, while Concerta contains no downstrokes within the name. While both names contain an upstroke, Cometriq contains four letters following the upstroke whereas Concerta only contains one. <u>Strength:</u> Both products have multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between products
15	Conray (Iothalamate) Solution for Injection 30%, 43%, 60%, 66.8% Usual Dose: 5 mL to 40 mL depending on procedure	<u>Orthographic:</u> The letter string 'Con' can look similar to the letter string 'Com' when scripted. Both names contain a downstroke letter at the end of the name.	<u>Orthographic:</u> Cometriq contains an upstroke in the 5 th position whereas Conray contains no upstrokes in the name. Cometriq (8 letters) appears longer than Conray (6 letters) when scripted. <u>Strength:</u> Both products have multiple strengths that would need to be indicated on the prescription. There is no overlap or numerical similarity between products <u>Dose:</u> There is no overlap or numerical similarity between products <u>Frequency of Administration:</u> One time dose vs. once daily

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
16	Cortef (Hydrocortisone) Tablet 5 mg, 10 mg, and 20 mg Usual Dose: 20 mg to 200 mg orally daily or 10 mg to 100 mg orally twice daily	<u>Orthographic:</u> The letter string 'Cor' looks similar to the letter string 'Com' when scripted. Both names contain a cross stroke letter 't' in the middle of the name. The letter 'f' in Cortef can look similar to the letter 'q' if the upstroke in the letter 'f' is short. <u>Dose:</u> Both products can be dosed at 60 mg, 100 mg, or 140 mg <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products can be given once daily <u>Strength:</u> Both products have a strength of 20 mg	<u>Orthographic:</u> Cometriq (8 letters) appears longer than Cortef (6 letters) when scripted.
17	Curosurf (Poractant Alfa) Suspension 80 mg/mL Usual Dose: 2.5 mL/kg in 2 aliquots, up to 2 subsequent doses of 1.25 mL/kg can be administered in 12 hour intervals. Max dose: 5 mL/kg	<u>Orthographic:</u> The letter string 'Cur' can look similar to the letter string 'Com' when scripted. The letter 'f' in Curosurf can look similar to the letter 'q' if the upstroke in the letter 'f' is short. <u>Dose:</u> 60 mL vs. 60 mg <u>Strength:</u> 80 mg/mL vs. 80 mg	<u>Orthographic:</u> Cometriq contains a cross stroke letter 't' in the middle of the name while Curosurf does not. <u>Frequency of Administration:</u> Curosurf is given every 12 hour for 3 doses, whereas Cometriq is taken once daily

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
18	Lamictal (Lamotrigine) Tablets 25 mg, 100 mg, 150 mg, 200 mg Usual Dose: 25 mg orally every other day to 250 mg twice daily	<u>Orthographic:</u> The letter string 'Lami' can look similar to the letter string 'Come' when scripted. Both names have a cross stroke letter 't' in the middle of the name. <u>Dose:</u> Both products can be dosed at 100 mg <u>Strength:</u> The 20 mg Cometriq strength is numerically similar to the 200 mg Lamictal strength <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products can be given once daily	<u>Orthographic:</u> Cometriq contains a downstroke letter 'q' at the end of the name while Lamictal contains an upstroke letter 'l' at the end of the name. Lamictal has the letter 'c' between the letter string 'Lami' and the upstroke letter 't' while Cometriq does not contain the letter 'c' between the letter string 'Come' and the upstroke letter 't'. This may provide additional orthographic difference.
19	Lomotil (Diphenoxylate/Atropine) Tablet and Liquid Tablet – 2.5 mg/0.025 mg Liquid – 2.5 mg/0.025 mg per 5 mL Usual Dose: 1 tablet or 5 mL orally daily to 2 tablets or 10 mL four times daily	<u>Orthographic:</u> The letter string 'Lomo' can look similar to the letter string 'Come' when scripted. Both names have a cross stroke letter 't' in the middle of the name. <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products can be given once daily	<u>Orthographic:</u> Cometriq contains a downstroke letter 'q' at the end of the name while Lomotil contains an upstroke letter 'l' at the end of the name. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths.
20	Loniten (Minoxidil) Tablet 2.5 mg and 10 mg Usual Dose: 5 mg to 40 mg orally daily or in divided doses	<u>Orthographic:</u> The letter string 'Lonit' can look similar to the letter string 'Comet' when scripted. <u>Route of Administration:</u> Both products are given orally <u>Frequency of Administration:</u> Both products can be given once daily	<u>Orthographic:</u> Cometriq contains a downstroke letter 'q' at the end of the name while Loniten does not. <u>Dose and Strength:</u> There is no overlap or numerical similarity in dose or strength between the two products

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
21	Actiq (Fentanyl) Transmucosal Lozenge 100 mcg, 200 mcg, 400 mcg, 600 mcg, 800 mcg, 1200 mcg lozenges Usual Dose: Dissolve 1 lozenge transmucosally over 15 minutes, no more than every 4 hours	<u>Orthographic:</u> The letter 'A' in Actiq can look similar to the letter 'C' in Cometriq when scripted. The letter string 'tiq' can look similar to the letter string 'triq' when scripted. <u>Phonetic:</u> The letter string 'tiq' is phonetically similar to the letter string 'triq'. <u>Strength:</u> The 200 mcg and 800 mcg Actiq strengths are numerically similar to the 20 mg and 80 mg Cometriq strengths <u>Dose:</u> An Actiq dose of 600 mcg, 1000 mcg, and 1400 mcg are numerically similar to Cometriq doses of 60 mg, 100 mg and 140 mg. <u>Route of Administration:</u> Both products are given orally	<u>Orthographic:</u> Cometriq (8 letters) appears longer than Actiq (5 letters) when scripted. <u>Phonetic:</u> Actiq has only two syllables while Cometriq has three syllables. The letter string 'Ac' is not phonetically similar to the letter string 'Come'. <u>Frequency of Administration:</u> Once daily vs. every 4 hours

	Proposed name: Cometriq Dosage Form: Capsule Strengths: 20 mg and 80 mg Usual Dose: 140 mg once daily. Also, 100 mg once daily and 60 mg once daily due to toxicity	Failure Mode: Incorrect Product Ordered/ Selected/Dispensed or Administered because of Name confusion Causes (could be multiple)	Prevention of Failure Mode In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names
22	Comtrex (Acetaminophen/ Pseudoephedrine/ Dextromethorphan) Tablets 325 mg/5 mg/10 mg Usual Dose: 2 tablets by mouth every 4 hours while symptoms persist	<u>Orthographic:</u> The letter string 'Comet' looks similar to the letter string 'Comt' when scripted. <u>Phonetic:</u> Both names have the letter string 'Com' at the beginning of the name. The letter string 'trex' is phonetically similar to the letter string 'triq'.	<u>Orthographic:</u> Cometriq has a downstroke letter 'q' at the end of the name while Comtrex does not. <u>Phonetic:</u> Comtrex has only two syllables while Cometriq has three syllables. <u>Strength:</u> Cometriq has multiple strengths that would need to be indicated on the prescription. There is no overlap between strengths. <u>Frequency of Administration:</u> Once daily vs. every 4 hours

This is a representation of an electronic record that was signed electronically and this page is the manifestation of the electronic signature.

/s/

JAMES H SCHLICK
08/22/2012

TODD D BRIDGES
08/22/2012

KELLIE A TAYLOR
08/23/2012

KELLIE A TAYLOR on behalf of CAROL A HOLQUIST
08/23/2012