CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

761103Orig1s000

PROPRIETARY NAME REVIEW(S)

MEMORANDUM
NONPROPRIETARY NAME SUFFIX

Division of Medication Error Prevention and Analysis (DMEPA)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

Date of This Review:	April 19, 2019
Responsible OND Division:	Division of Hematology Products (DHP)
Application Type and Number:	BLA 761103
Product Name and Strength:	Ruxience (rituximab-pvvr) Injection, 10 mg/mL
Total Product Strength:	100 mg/10 mL and 500 mg/50 mL
Product Type:	Single Ingredient Product
Applicant/Sponsor Name:	Pfizer, Inc. (Pfizer)
FDA Received Date:	July 25, 2018
OSE RCM #:	2018-1603
DMEPA Primary Reviewer:	Carlos M Mena-Grillasca, BS Pharm
DMEPA Deputy Director:	Danielle Harris, PharmD, BCPS

1 PURPOSE OF MEMO

This memorandum summarizes our evaluation of the four-letter suffixes proposed by Pfizer for inclusion in the nonproprietary name and communicates our recommendation for the nonproprietary name for BLA 761103.

2 ASSESSMENT OF THE NONPROPRIETARY NAME

On July 25, 2018, Pfizer submitted a list of 7 suffixes, in their order of preference, to be used in the nonproprietary name of their product[a]. Pfizer also provided findings from an external study conducted by (b) (4)[b], evaluating the proposed four-letter suffixes in conjunction with the nonproprietary name, for our consideration. Table 1 presents a list of suffixes submitted by Pfizer:

Table 1. Suffixes submitted by Pfizer***	
1.	-pvvr
2.	(b) (4)
3.	
4.	
5.	
6.	
7.	

We reviewed Pfizer's proposed suffixes in order of preference listed by Pfizer, along with the supporting data they submitted, using the principles described in the applicable guidance.[c]

2.1 rituximab-pvvr

Pfizer's first proposed suffix, -pvvr, is comprised of three distinct letters (p, v, r).

We determined that the proposed suffix -pvvr, is not too similar to any other product's suffix designation, does not look similar to the names of other currently marketed products, that the suffix is devoid of meaning, does not include any abbreviations that could be misinterpreted, and does not make any misrepresentations with respect to safety or efficacy of this product.

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[a] Request for Review of Nonproprietary Naming for BLA 761103. New York (NY): Pfizer, Inc.; 25 JUL 2018. Available from: \\cdsesub1\evsprod\bla761103\0001\m1\us\req-nonproprietary-naming.pdf

[b] (b) (4)

[c] See Section VI which describes that any suffixes should be devoid of meaning in Guidance for Industry: Nonproprietary Naming of Biological Products. 2017. Available from: http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM459987.pdf

3 COMMUNICATION OF DMEPA'S ANALYSIS

These findings were shared with OPDP. Per email correspondence dated April 2, 2019, OPDP did not identify any concerns that would render this proposed suffix unacceptable. DMEPA also communicated our findings to the Division of Hematology Products (DHP) via e-mail on April 19, 2019.

4 CONCLUSION

We find Pfizer's proposed suffix -pvvr acceptable and recommend the nonproprietary name be revised throughout the draft labels and labeling to rituximab-pvvr. DMEPA will communicate our findings to the Applicant via letter.

4.1 Recommendations for Pfizer, Inc.

We find the nonproprietary name, rituximab-pvvr, conditionally acceptable for your proposed product. Should your 351(k) BLA be approved during this review cycle, rituximab-pvvr will be the proper name designated in the license. You should revise your proposed labels and labeling accordingly and submit the revised labels and labeling to your BLA for our review. However, please be advised that if your application receives a complete response, the acceptability of your proposed suffix will be re-evaluated when you respond to the deficiencies. If we find your suffix unacceptable upon our re-evaluation, we would inform you of our finding.

This is a representation of an electronic record that was signed electronically. Following this are manifestations of any and all electronic signatures for this electronic record.

/s/

CARLOS M MENA-GRILLASCA
04/19/2019 08:11:55 AM

DANIELLE M HARRIS
04/19/2019 11:27:30 AM

PROPRIETARY NAME REVIEW

Division of Medication Error Prevention and Analysis (DMEPA)
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Date of This Review:	September 27, 2018
Application Type and Number:	BLA 761103
Product Name and Strength:	Ruxience ("PF-05280586"*) Injection 10 mg/mL
Total Product Strength:	100 mg/10 mL and 500 mg/50 mL
Product Type:	Single Ingredient Product
Rx or OTC:	Rx
Applicant/Sponsor Name:	Pfizer
Panorama #:	2018-24830550
DMEPA Safety Evaluator:	Nicole Garrison, PharmD, BCPS
DMEPA Team Leader:	Hina Mehta, PharmD

* In this document, we refer to the proposed biosimilar product by the descriptor "PF-05280586", which was the name Pfizer used to refer to this product during development. FDA has not yet designated a nonproprietary name for Pfizer's proposed biosimilar that includes a distinguishing suffix (see Draft Guidance on Nonproprietary Naming of Biological Products).

Contents

1 INTRODUCTION

This review evaluates the proposed proprietary name, Ruxience, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively. Pfizer did not submit an external name study for this proposed proprietary name.

1.1 REGULATORY HISTORY

Pfizer previously submitted the proposed proprietary name, Ruxience on December 15, 2016. The Division of Medication Error Prevention and Analysis (DMEPA) found the name, Ruxience acceptable under IND 110426 on March 30, 2017[a]. Subsequently, the Applicant submitted the name, Ruxience with the marketing application on July 26, 2018.

1.2 PRODUCT INFORMATION

The following product information is provided in the proprietary name submission received on July 26, 2018.

- Intended Pronunciation: RUKS'ee-ents
- Active Ingredient: "PF-05280586"[*]
- Indication of Use:
    - Non-Hodgkin's Lymphoma (NHL)
        - Relapsed or refractory, low grade or follicular, CD20-positive B-cell NHL as a single agent.
        - Previously untreated follicular, CD20-positive, B-cell NHL in combination with first line chemotherapy and, in patients achieving a complete or partial response to rituximab products in combination with chemotherapy, as single-agent maintenance therapy.
        - Non-progressing (including stable disease), low-grade, CD20 positive, B-cell NHL as a single-agent after first line cyclophosphamide, vincristine, and prednisone) (CHOP) or other anthracycline-based chemotherapy regimens.
    - Chronic Lymphocytic Leukemia (CLL)

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[a] Garrison, N. Proprietary Name Review for Ruxience (BLA 761103)]. Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2017 MAR 30. Panorama No. 2016-11985631.

[*] In this document, we refer to the proposed biosimilar product by the descriptor "PF-05280586", which was the name Pfizer used to refer to this product during development. FDA has not yet designated a nonproprietary name for Pfizer's proposed biosimilar that includes a distinguishing suffix (see Draft Guidance on Nonproprietary Naming of Biological Products).

        - Previously untreated and previously treated CD20-positive CLL in combination with fludarabine and cyclophosphamide (FC).
    - Rheumatoid Arthritis (RA) in combination with methotrexate in adult patients with moderately-to-severely-active RA who have inadequate response to one or more TNF antagonist therapies.
    - Granulomatosis with Polyangiitis (GPA) (Wegener's Granulomatosis) and Microscopic Polyangiitis (MPA) in adult patients in combination with glucocorticoids.
- Route of Administration: Intravenous
- Dosage Form: Injection
- Strength: 100 mg/10 mL (10 mg/mL) and 500 mg/50 mL (10 mg/mL)
- Dose and Frequency:
    - ***NHL***: the dose is 375 mg/m^2. Depending on severity and/or stage of disease, administration can range from 4 to 16 doses.
    - ***CLL***: 375 mg/m^2 the day prior to initiation of FC chemotherapy, then 500 mg/m^2 on Day 1 of Cycles 2-6 (every 28 days).
    - ***Component of Zevalin (ibritumomab tiuxetan) Therapeutic Regimen***: the dose is 250 mg/m^2
    - ***RA***: in combination with methotrexate the dose is two-1000 mg intravenous infusions separated by 2 weeks (one course) every 24 hours or based on clinical evaluations, but not sooner than every 16 weeks. Methylprednisolone 100 mg intravenous or equivalent glucocorticoid is recommended 30 minutes prior to each infusion.
    - ***GPA and MPA***: In combination with glucocorticoids, the dose is 375 mg/m^2 once weekly for 4 weeks.
- How Supplied:
    - 100 mg/10 mL in a single-dose vial
    - 500 mg/50 mL in a single-dose vial
- Storage: Ruxience vials [100 mg/10 mL single-dose vials (0069-0238-01) and 500 mg/50 mL single-dose vials (NDC 0069-0249-01)] are stable at 2°C to 8°C (36°F to 46°F). Ruxience vials should be protected from direct sunlight. Do not freeze or shake.
- Reference Product: Rituxan (BLA 103705)

2 RESULTS

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

2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that the proposed name would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis

(DMEPA) and the Division of Hematology Products (DHP) concurred with the findings of OPDP's assessment of the proposed name.

2.2 SAFETY ASSESSMENT

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

2.2.1 United States Adopted Names (USAN) Search

There is no USAN stem present in the proprietary name[b].

2.2.2 Components of the Proposed Proprietary Name

Pfizer did not provide a derivation or intended meaning for the proposed name, Ruxience in their submission. This proprietary name is comprised of a single word that does not contain any components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

2.2.3 Comments from Other Review Disciplines at Initial Review

In response to the OSE, August 17, 2018 e-mail, the Division of Hematology Products (DHP) did not forward any comments or concerns relating to the proposed proprietary name at the initial phase of the review.

2.2.4 FDA Name Simulation Studies

Fifty-four (54) practitioners participated in DMEPA's prescription studies. The responses did not overlap with any currently marketed products nor did the responses sound or look similar to any currently marketed products or any products in the pipeline. Appendix B contains the results from the verbal and written prescription studies.

2.2.5 Phonetic and Orthographic Computer Analysis (POCA) Search Results

Our POCA search[c] identified 70 names with the combined score of ≥55% or individual orthographic or phonetic score of ≥70%. We had identified and evaluated some of the names in our previous proprietary name review. We re-evaluated the previously identified names of concern considering any lessons learned from recent post-marketing experience, which may have altered our previous conclusion regarding the acceptability of the name. We note that none of the product characteristics have changed and we agree with the findings from our previous review for the names evaluated previously. Therefore, we identified three (3) names not previously analyzed. These names are included in Table 1 below.

2.2.6 Names Retrieved for Review Organized by Name Pair Similarity

Table 1 lists the number of names retrieved from our POCA search. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

[b] USAN stem search conducted on September 12, 2018.

[c] POCA search conducted on September 4, 2018 in version 4.2

Table 1. Similarity Category	Number of Names
Highly similar name pair: combined match percentage score ≥70%	0
Moderately similar name pair: combined match percentage score ≥55% to ≤ 69%	3
Low similarity name pair: combined match percentage score ≤54%	0

2.2.7 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities

Our analysis of the 3 names contained in Table 1 determined none of the names will pose a risk for confusion as described in Appendices C through H.

2.2.8 Communication of DMEPA's Analysis at Midpoint of Review

DMEPA communicated our findings to the Division of Hematology Products (DHP) via e-mail on September 25, 2018. At that time, we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the DHP on September 26, 2018, they stated no additional concerns with the proposed proprietary name, Ruxience.

3 CONCLUSION

The proposed proprietary name is acceptable.

If you have any questions or need clarifications, please contact Neil Vora, OSE project manager, at 240-402-4585.

3.1 COMMENTS TO THE APPLICANT/SPONSOR

We have completed our review of the proposed proprietary name, Ruxience, and have concluded that this name is acceptable.

If any of the proposed product characteristics as stated in your submission, received on July 26, 2018, are altered prior to approval of the marketing application, the name must be resubmitted for review.

4 REFERENCES

1. ***USAN Stems (http://www.ama-assn.org/ama/pub/physician-resources/medical-science/united-states-adopted-names-council/naming-guidelines/approved-stems.page)***

   USAN Stems List contains all the recognized USAN stems.

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

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

Drugs@FDA

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States 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* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

RxNorm

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html#).

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.

APPENDICES

Appendix A

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.
2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:

a. Preliminary Assessment: 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.) See prescreening checklist below in Table 2*. 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. [d]

[d] National Coordinating Council for Medication Error Reporting and Prevention. http://www nccmerp.org/aboutMedErrors html. Last accessed 10/11/2007.

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

	Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance.
Y/N	**Is the proposed name obviously similar in spelling and pronunciation to other names?**
	Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products.
Y/N	**Are there inert or inactive ingredients referenced in the proprietary name?**
	Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)).
Y/N	**Does the proprietary name include combinations of active ingredients?**
	Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)).
Y/N	**Is there a United States Adopted Name (USAN) stem in the proprietary name?**
	Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem.
Y/N	**Is this proprietary name used for another product that does not share at least one common active ingredient?**
	Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name.
Y/N	**Is this a proprietary name of a discontinued product?**
	Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients.

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@fda, CernerRxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:

- Highly similar pair: combined match percentage score ≥70%.
- Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.
- Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names[e]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g., route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

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[e] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

   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.

d. 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.

   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.

Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).

Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose.			
Orthographic Checklist		Phonetic Checklist	
Y/N	Do the names begin with different first letters? *Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.*	**Y/N**	Do the names have different number of syllables?
Y/N	Are the lengths of the names dissimilar* when scripted? **FDA considers the length of names different if the names differ by two or more letters.*	**Y/N**	Do the names have different syllabic stresses?
Y/N	Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?	**Y/N**	Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?
Y/N	Is there different number or placement of cross-stroke or dotted letters present in the names?	**Y/N**	Across a range of dialects, are the names consistently pronounced differently?
Y/N	Do the infixes of the name appear dissimilar when scripted?		
Y/N	Do the suffixes of the names appear dissimilar when scripted?		

Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).

Step 1	Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation. For single strength products, also consider circumstances where the strength may not be expressed. For any i.e. drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components. To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion: • Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa. • Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity. • Similar sounding doses: 15 mg is similar in sound to 50 mg
Step 2	Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses.

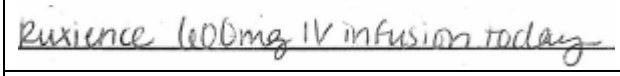
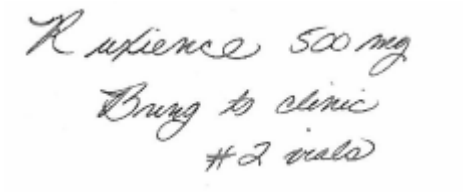
	Orthographic Checklist (Y/N to each question) • Do the names begin with different first letters? Note that even when names begin with different first letters, certain letters may be confused with each other when scripted. • Are the lengths of the names dissimilar* when scripted? *FDA considers the length of names different if the names differ by two or more letters. • Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? • Is there different number or placement of cross-stroke or dotted letters present in the names? • Do the infixes of the name appear dissimilar when scripted? • Do the suffixes of the names appear dissimilar when scripted?	Phonetic Checklist (Y/N to each question) • Do the names have different number of syllables? • Do the names have different syllabic stresses? • Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? • Across a range of dialects, are the names consistently pronounced differently?

Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).

Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

Appendix B: Prescription Simulation Samples and Results

Figure 1. Ruxience Study (Conducted on August 21, 2018)

Handwritten Medication Order/Prescription	Verbal Prescription
Medication Order:  Outpatient Prescription: 	Ruxience 500 mg Bring to clinic #2 vials

FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)

307 People Received Study

54 People Responded

Study Name: Ruxience

Total	16	19	19	
INTERPRETATION	**OUTPATIENT**	**VOICE**	**INPATIENT**	**TOTAL**
ROCKSIENE	0	1	0	1
ROXEIANT	0	1	0	1
ROXIANCE	0	1	0	1
ROXSIENCE	0	1	0	1
RUXANS	0	1	0	1
RUXENCE	0	1	0	1
RUXIAN	0	1	0	1
RUXIANCE	0	5	0	5
RUXIENCE	15	5	19	39

RUXIENCE 500 MG	1	0	0	1
RUXSIENCE	0	1	0	1
RUXSYENCE	0	1	0	1

Appendix C: Highly Similar Names (e.g., combined POCA score is ≥70%)

No.	**Proposed name:** Ruxience **Established name: (“**PF-05280586”*) **Dosage form:** Injection **Strength(s):** 100 mg/10 mL, 500 mg/50 mL **Usual Dose:** **NHL:** the dose is 375 mg/m^2. Depending on severity and/or stage of disease, administration can range from 4 to 16 doses. **CLL:** 375 mg/m^2 in the first cycle and 500 mg/m^2 in cycles 2-6, in combination with FC, administered every 28 days. **RA:** dose is two-1000 mg intravenous infusions separated by 2 weeks (one course) every 24 hours **GPA and MPA:** In combination with glucocorticoids, the dose is 375 mg/m^2 once weekly for 4 weeks. **Component of Zevalin (ibritumomab tiuxetan) Therapeutic Regimen:** the dose is 250 mg/m^2	**POCA Score (%)**	**Orthographic and/or phonetic differences in the names sufficient to prevent confusion** **Other prevention of failure mode expected to minimize the risk of confusion between these two names.**
	N/A		

Appendix D: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

No.	Name	POCA Score (%)
	N/A	

Appendix E: Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

* In this document, we refer to the proposed biosimilar product by the descriptor “PF-05280586”, which was the name Pfizer used to refer to this product during development. FDA has not yet designated a nonproprietary name for Pfizer’s proposed biosimilar that includes a distinguishing suffix (see Draft Guidance on Nonproprietary Naming of Biological Products).

No.	**Proposed name:** Ruxience **Established name: (“**PF-05280586”[*]) **Dosage form:** Injection **Strength(s):** 100 mg/10 mL, 500 mg/50 mL **Usual Dose:** **NHL:** the dose is 375 mg/m^2. Depending on severity and/or stage of disease, administration can range from 4 to 16 doses. **CLL:** 375 mg/m^2 in the first cycle and 500 mg/m^2 in cycles 2-6, in combination with FC, administered every 28 days. **RA:** dose is two-1000 mg intravenous infusions separated by 2 weeks (one course) every 24 hours **GPA and MPA:** In combination with glucocorticoids, the dose is 375 mg/m^2 once weekly for 4 weeks. **Component of Zevalin (ibritumomab tiuxetan) Therapeutic Regimen:** the dose is 250 mg/m^2	**POCA Score (%)**	**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**

[*] In this document, we refer to the proposed biosimilar product by the descriptor “PF-05280586”, which was the name Pfizer used to refer to this product during development. FDA has not yet designated a nonproprietary name for Pfizer’s proposed biosimilar that includes a distinguishing suffix (see Draft Guidance on Nonproprietary Naming of Biological Products).

No.	Proposed name: Ruxience Established name: ("PF-05280586"*) Dosage form: Injection Strength(s): 100 mg/10 mL, 500 mg/50 mL Usual Dose: **NHL:** the dose is 375 mg/m^2. Depending on severity and/or stage of disease, administration can range from 4 to 16 doses. **CLL:** 375 mg/m^2 in the first cycle and 500 mg/m^2 in cycles 2-6, in combination with FC, administered every 28 days. **RA:** dose is two-1000 mg intravenous infusions separated by 2 weeks (one course) every 24 hours **GPA and MPA:** In combination with glucocorticoids, the dose is 375 mg/m^2 once weekly for 4 weeks. Component of Zevalin (ibritumomab tiuxetan) Therapeutic Regimen: the dose is 250 mg/m^2	POCA Score (%)	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)***	62	(b) (4) Therefore, in this scenario, due to the above-mentioned factors and the phonetic and

No.	**Proposed name:** Ruxience **Established name: (“**PF-05280586”*) **Dosage form:** Injection **Strength(s):** 100 mg/10 mL, 500 mg/50 mL **Usual Dose:** **NHL:** the dose is 375 mg/m^2. Depending on severity and/or stage of disease, administration can range from 4 to 16 doses. **CLL:** 375 mg/m^2 in the first cycle and 500 mg/m^2 in cycles 2-6, in combination with FC, administered every 28 days. **RA:** dose is two-1000 mg intravenous infusions separated by 2 weeks (one course) every 24 hours **GPA and MPA:** In combination with glucocorticoids, the dose is 375 mg/m^2 once weekly for 4 weeks. **Component of Zevalin (ibritumomab tiuxetan) Therapeutic Regimen:** the dose is 250 mg/m^2	**POCA Score (%)**	**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**
			orthographic differences, we find this name pair acceptable.
2.	(b) (4)***	57	This name pair has sufficient orthographic and phonetic differences.
3.	Truxima***	57	This name pair has sufficient orthographic and phonetic differences.

Appendix F: Low Similarity Names (e.g., combined POCA score is ≤54%)

No.	Name	POCA Score (%)
	N/A	

Appendix G: Names not likely to be confused or not used in usual practice settings for the reasons described**.**

No.	Name	POCA Score (%)	Failure preventions
	N/A		

Appendix H: Names not likely to be confused due to absence of attributes that are known to cause name confusion[f].

No.	Name	POCA Score (%)
	N/A	

[f] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

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/s/

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