

Accessibility Conformance Report

VPAT® Version 2.0 – October 2017

Name of Product: Model ChemLab v2.6.2 for Windows, v5.0 for MacOS.

Product Description: Interactive Chemistry Lab Simulation

Date: March 10, 2020

Contact information: info@modelscience.com

Evaluation Methods Used:

Manual Tests: Tested on Windows 10 and MacOS.

Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
Web Content Accessibility Guidelines 2.0, at http://www.w3.org/TR/2008/REC-WCAG20-20081211/	Yes
Section 508 as published in 2017, at http://www.Section508.gov	Yes
EN 301 549 Accessibility requirements suitable for public procurement of ICT products and services in Europe, at http://mandate376.standards.eu/standard	No

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Supports with Exceptions:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

WCAG 2.0 Report

Tables 1 and 2 also document conformance with:

- EN 301 549: Chapter 9 - Web, Chapter 10 - Non-Web documents, Section 11.2.1- Non-Web Software (excluding closed functionality), and Section 11.2.2 - Non-Web Software (closed functionality).
- Revised Section 508: Chapter 5 – 501.1 Scope, 504.2 Content Creation or Editing, and Chapter 6 – 602.3 Electronic Support Documentation.

Table 1: Success Criteria, Level A

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.1.1 Non-text Content (Level A) All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except in situations listed in WCAG 2.0 1.1.1.	Supports with Exceptions	Description of the lab equipment contents can be ascertained using the Chemicals properties dialog.
1.2.1 Audio-only and Video-only (Prerecorded) (Level A)	Not Applicable	ChemLab does not incorporate Audio and Video content.

Criteria	Conformance Level	Remarks and Explanations
<p>For pre-recorded audio-only and pre-recorded video-only media, the following are true, except when the audio or video is a media alternative for text and is clearly labeled as such:</p> <ul style="list-style-type: none"> • Pre-recorded Audio-only: An alternative for time-based media is provided that presents equivalent information for pre-recorded audio only content. • Pre-recorded Video-only: Either an alternative for time-based media or an audio track is provided that presents equivalent information for pre-recorded video-only content. 		
<p><u>1.2.2 Captions (Prerecorded)</u> (Level A)</p> <p>Captions are provided for all pre-recorded audio content in synchronized media, except when the media is a media alternative for text and is clearly labeled as such.</p>	Not Applicable	ChemLab does not incorporate Audio and Video content.
<p><u>1.2.3 Audio Description or Media Alternative (Prerecorded)</u> (Level A)</p> <p>An alternative for time-based media or audio description of the pre-recorded video content is provided for synchronized media, except when the media is a media alternative for text and is clearly labeled as such.</p>	Not Applicable	ChemLab does not incorporate Audio and Video content.
<p><u>1.3.1 Info and Relationships</u> (Level A)</p> <p>Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.</p>	Supports	
<p><u>1.3.2 Meaningful Sequence</u> (Level A)</p> <p>When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined</p>	Supports	Content is mostly presented in a meaningful sequence (example: lab procedure, step 1, step 2, etc.)

Criteria	Conformance Level	Remarks and Explanations
<p><u>1.3.3 Sensory Characteristics</u> (Level A) Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound.</p>	Supports	
<p><u>1.4.1 Use of Color</u> (Level A) Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</p>	Supports with Exceptions	<p>Color changes within lab equipment are used to indicate chemical reactions, similar to an actual lab setting.</p> <p>An additional (popup) text message will be added to signify when a color change occurs.</p>
<p><u>1.4.2 Audio Control</u> (Level A) If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level.</p>	Supports	ChemLab does not include audio that plays automatically.
<p><u>2.1.1 Keyboard</u> (Level A) All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints</p>	Supports with exceptions	Most functionality is accessible using the keyboard (short cuts). However, some functionality such as selecting documentation tab, requires mouse input. Mouse input can also be simulated using the keyboard in MacOS and Windows.
<p><u>2.1.2 No Keyboard Trap</u> (Level A) If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away</p>	Supports	ChemLab does not contain keyboard traps.
<p><u>2.2.1 Timing Adjustable</u> (Level A) For each time limit that is set by the content, at least one of the instances in WCAG 2.0 2.2.1 is true.</p>	Supports with exceptions	ChemLab does not set time limits. But some simulated reaction within ChemLab may be time dependent.

Criteria	Conformance Level	Remarks and Explanations
<p><u>2.2.2 Pause, Stop, Hide</u> (Level A) For moving, blinking, scrolling, or auto-updating information, all of the following are true:</p> <ul style="list-style-type: none"> • Moving, blinking, scrolling: For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and • Auto-updating: For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential. 	Supports	
<p><u>2.3.1 Three Flashes or Below Threshold</u> (Level A)</p> <p>Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.</p>	Supports	
<p><u>2.4.1 Bypass Blocks</u> (Level A) A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.</p>	Supports	
<p><u>2.4.2 Page Titled</u> (Level A) Web pages have titles that describe topic or purpose.</p>	Supports	
<p><u>2.4.3 Focus Order</u> (Level A) If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.</p>	Supports	
<p><u>2.4.4 Link Purpose (In Context)</u> (Level A)</p>	Supports	

Criteria	Conformance Level	Remarks and Explanations
<p>The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general.</p>		
<p><u>3.1.1 Language of Page</u> (Level A) The default human language of each Web page can be programmatically determined.</p>	Supports	
<p><u>3.2.1 On Focus</u> (Level A) When any component receives focus, it does not initiate a change of context.</p>	Supports	
<p><u>3.2.2 On Input</u> (Level A) Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component.</p>	Supports	
<p><u>3.3.1 Error Identification</u> (Level A) If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text</p>	Supports	
<p><u>3.3.2 Labels or Instructions</u> (Level A) Labels or instructions are provided when content requires user input.</p>	Supports	
<p><u>4.1.1 Parsing</u> (Level A) In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.</p>	Supports	
<p><u>4.1.2 Name, Role, Value</u> (Level A)</p>	Supports	

Criteria	Conformance Level	Remarks and Explanations
For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies.		

Table 2: Success Criteria, Level AA

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.2.4 Captions (Live) (Level AA) Captions are provided for all live audio content in synchronized media.	Not Applicable	ChemLab does not include live audio content.
1.2.5 Audio Description (Prerecorded) (Level AA) Audio description is provided for all pre-recorded video content in synchronized media.	Not Applicable	ChemLab does not include pre-recorded video content.
1.4.3 Contrast (Minimum) (Level AA) The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following: <ul style="list-style-type: none"> • Large Text: Large-scale text and images of largescale text have a contrast ratio of at least 3:1; • Incidental: Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement. • Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement. 	Supported	
1.4.4 Resize text (Level AA)	Supports with Exceptions	Lab observations content can be resized using font setting, but read-only documentation such

Criteria	Conformance Level	Remarks and Explanations
<p>Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality</p>		<p>as the Introduction and Procedure cannot be resized.</p> <p>A pdf document of all lab content is available.</p> <p>An option will also be added to the preference dialog to allow this.</p>
<p><u>1.4.5 Images of Text</u> (Level AA) If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following:</p> <ul style="list-style-type: none"> • Customizable: The image of text can be visually customized to the user's requirements; • Essential: A particular presentation of text is essential to the information being conveyed. 	Supports	
<p><u>2.4.5 Multiple Ways</u> (Level AA) More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process.</p>	Supports	
<p><u>2.4.6 Headings and Labels</u> (Level AA) Headings and labels describe topic or purpose.</p>	Supports	
<p><u>2.4.7 Focus Visible</u> (Level AA) Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible.</p>	Supports	
<p><u>3.1.2 Language of Parts</u> (Level AA) The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text.</p>	Supports	

Criteria	Conformance Level	Remarks and Explanations
<p>3.2.3 Consistent Navigation (Level AA) Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.</p>	Supports	
<p>3.2.4 Consistent Identification (Level AA) Components that have the same functionality within a set of pages are identified consistently.</p>	Supports	
<p>3.3.3 Error Suggestion (Level AA) If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content.</p>	Supports	
<p>3.3.4 Error Prevention (Legal, Financial, Data) (Level AA) For pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true:</p> <ul style="list-style-type: none"> • Reversible: Submissions are reversible. • Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them. • Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission. 	Not Applicable	

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Notes:

Chapter 3: Functional Performance Criteria (FPC)

Notes:

Criteria	Conformance Level	Remarks and Explanations
<p>302.1 Without Vision: Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that does not require user vision.</p>	Supports with Exception	Both macOS and Windows includes many features to assist users without vision.
<p>302.2 With Limited Vision: Where a visual mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited vision.</p>	Supports with Exception	Both macOS and Windows includes many features to assist users without vision.
<p>302.3 Without Perception of Color: Where a visual mode of operation is provided, ICT shall provide at least one visual mode of operation that does not require user perception of color.</p>	Supports with Exception	<p>Color changes within lab equipment are used to indicate chemical reactions, similar to an actual lab setting.</p> <p>An additional (popup) text message will be added to signify when a color change occurs.</p>
<p>302.4 Without Hearing: Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that does not require user hearing</p>	Not Applicable	Model ChemLab does not use audio output.
<p>302.5 With Limited Hearing: Where an audible mode of operation is provided, ICT shall provide at least one mode of operation that enables users to make use of limited hearing.</p>	Not Applicable	Model ChemLab does not use audio output.
<p>302.6 Without Speech: Where speech is used for input, control, or operation, ICT shall provide at least one mode of operation that does not require user speech.</p>	Not Applicable	Model ChemLab does not use speech input.

Criteria	Conformance Level	Remarks and Explanations
302.7 With Limited Manipulation: Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that does not require fine motor control or simultaneous manual operations.	Supports	Both macOS and Windows includes many features to assist users with limited manipulation.
302.8 With Limited Reach and Strength: Where a manual mode of operation is provided, ICT shall provide at least one mode of operation that is operable with limited reach and limited strength.	Supports	Both macOS and Windows includes many features to assist users with limited manipulation.
302.9 With Limited Language, Cognitive, and Learning Abilities: ICT shall provide features making its use by individuals with limited cognitive, language, and learning abilities simpler and easier.	Does Not Support	

Chapter 4: Hardware

Not Applicable.

Chapter 5: Software

Notes:

Criteria	Conformance Level	Remarks and Explanations
501.1 Scope – Incorporation of WCAG 2.0 AA	See WCAG 2.0 section	See information in WCAG section
502 Interoperability with Assistive Technology		
502.2.1 User Control of Accessibility Features: Platform software shall provide user control over platform features that are defined in the platform documentation as accessibility features.	Supports	See the Windows 10 and macOS VPAT for more information
502.2.2 No Disruption of Accessibility Features: Software shall not disrupt platform features that are defined in the platform documentation as accessibility features.	Supports	

Criteria	Conformance Level	Remarks and Explanations
502.3 Accessibility Services		
502.3.1 Object Information: The object role, state(s), properties, boundary, name, and description shall be programmatically determinable.	Supports	
502.3.2 Modification of Object Information: States and properties that can be set by the user shall be capable of being set programmatically, including through assistive technology.	Supports	
502.3.3 Row, Column, and Headers: If an object is in a data table, the occupied rows and columns, and any headers associated with those rows or columns, shall be programmatically determinable.	Supports with Exceptions	
502.3.4 Values: Any current value(s), and any set or range of allowable values associated with an object, shall be programmatically determinable.	Supports	
502.3.5 Modification of Values: Values that can be set by the user shall be capable of being set programmatically, including through assistive technology.	Supports	
502.3.6 Label Relationships: Any relationship that a component has as a label for another component, or of being labeled by another component, shall be programmatically determinable.	Supports	
502.3.7 Hierarchical Relationships: Any hierarchical (parent-child) relationship that a component has as a container for, or being contained by, another component shall be programmatically determinable.	Supports	

Criteria	Conformance Level	Remarks and Explanations
<p>502.3.8 Text: The content of text objects, text attributes, and the boundary of text rendered to the screen, shall be programmatically determinable.</p>	Supports	
<p>502.3.9 Modification of Text: Text that can be set by the user shall be capable of being set programmatically, including through assistive technology.</p>	Supports	
<p>502.3.10 List of Actions: A list of all actions that can be executed on an object shall be programmatically determinable.</p>	Supports	
<p>502.3.11 Actions on Objects: Applications shall allow assistive technology to programmatically execute available actions on objects.</p>	Supports	
<p>502.3.12 Focus Cursor: Applications shall expose information and mechanisms necessary to track focus, text insertion point, and selection attributes of user interface components.</p>	Supports	
<p>502.3.13 Modification of Focus Cursor: Focus, text insertion point, and selection attributes that can be set by the user shall be capable of being set programmatically, including through the use of assistive technology.</p>	Supports	
<p>502.3.14 Event Notification: Notification of events relevant to user interactions, including but not limited to, changes in the component's state(s), value, name, description, or boundary, shall be available to assistive technology.</p>	Supports	

Criteria	Conformance Level	Remarks and Explanations
<p>502.4 Platform Accessibility Features: Platforms and platform software shall conform to the requirements in ANSI/HFES 200.2, Human Factors Engineering of Software User Interfaces — Part 2: Accessibility (2008) (incorporated by reference, see 702.4.1) listed below: A. Section 9.3.3 Enable sequential entry of multiple (chorded) keystrokes; B. Section 9.3.4 Provide adjustment of delay before key acceptance; C. Section 9.3.5 Provide adjustment of same key double-strike acceptance; D. Section 10.6.7 Allow users to choose visual alternative for audio output; E. Section 10.6.8 Synchronize audio equivalents for visual events; F. Section 10.6.9 Provide speech output services; and G. Section 10.7.1 Display any captions provided.</p>	Supports with Exceptions.	Please see the Windows 10 and macOS VPAT for more information.
503 Applications	Heading cell – no response required	Heading cell – no response required
<p>503.2 User Preferences: Applications shall permit user preferences from platform settings for color, contrast, font type, font size, and focus cursor.</p>	Supports with exceptions	Please see the Windows 10 and macOS VPAT for more information.
<p>503.3 Alternative User Interfaces: Where an application provides an alternative user interface that functions as assistive technology, the application shall use platform and other industry standard accessibility services.</p>	Not Applicable	
503.4 User Controls for Captions and Audio Description		
<p>503.4.1 Caption Controls: Where user controls are provided for volume adjustment, ICT shall provide user controls for the selection of captions at the same menu level as the user controls for volume or program selection.</p>	Not Applicable	

Criteria	Conformance Level	Remarks and Explanations
<p>503.4.2 Audio Description Controls: Where user controls are provided for program selection, ICT shall provide user controls for the selection of audio descriptions at the same menu level as the user controls for volume or program selection.</p>	Not Applicable	
504 Authoring Tools		
<p>504.2 Content Creation or Editing: Authoring tools shall provide a mode of operation to create or edit content that conforms to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1) for all supported features and, as applicable, to file formats supported by the authoring tool. Authoring tools shall permit authors the option of overriding information required for accessibility.</p>	See WCAG 2.0 section	See information in WCAG section
<p>504.2.1 Preservation of Information Provided for Accessibility in Format Conversion: Authoring tools shall, when converting content from one format to another or saving content in multiple formats, preserve the information required for accessibility to the extent that the information is supported by the destination format.</p>	Does not Support	
<p>504.2.2 PDF Export: Authoring tools capable of exporting PDF files that conform to ISO 32000-1:2008 (PDF 1.7) shall also be capable of exporting PDF files that conform to ANSI/AIIM/ISO 14289-1:2016 (PDF/UA-1) (incorporated by reference, see 702.3.1).</p>	Does not Support	
<p>504.3 Prompts: Authoring tools shall provide a mode of operation that prompts authors to create content that conforms to Level A and Level AA Success Criteria and Conformance</p>	Does not Support	

Criteria	Conformance Level	Remarks and Explanations
Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1) for supported features and, as applicable, to file formats supported by the authoring tool.		
504.4 Templates: Where templates are provided, templates allowing content creation that conforms to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1) shall be provided for a range of template uses for supported features and, as applicable, to file formats supported by the authoring too	Does not Support	

Chapter 6: Support Documentation and Services

Notes:

Criteria	Conformance Level	Remarks and Explanations
<i>601.1 Scope</i>		
<i>602 Support Documentation</i>		
602.2 Accessibility and Compatibility Features: Documentation shall list and explain how to use the accessibility and compatibility features required by Chapters 4 and 5. Documentation shall include accessibility features that are built-in and accessibility features that provide compatibility with assistive technology.	Supports	
602.3 Electronic Support Documentation: Documentation in electronic format, including Web based self-service support, shall conform to Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (incorporated by reference, see 702.10.1).	See WCAG 2.0 section	See information in WCAG section
602.4 Alternate Formats for Non-Electronic Support Documentation:	Supports	

Criteria	Conformance Level	Remarks and Explanations
Where support documentation is only provided in non-electronic formats, alternate formats usable by individuals with disabilities shall be provided upon request.		
603 Support Services		
603.2 Information on Accessibility and Compatibility Features: ICT support services shall include information on the accessibility and compatibility features required by 602.2.	Supports	
603.3 Accommodation of Communication Needs: Support services shall be provided directly to the user or through a referral to a point of contact. Such ICT support services shall accommodate the communication needs of individuals with disabilities.	Supports	Support via the Internet is available through: https://www.modelscience.com/support.html

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