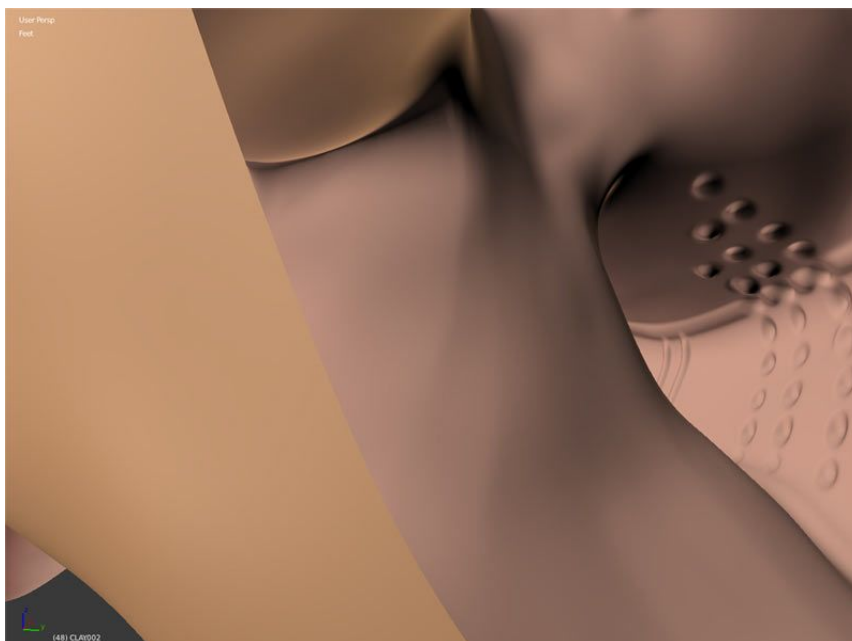
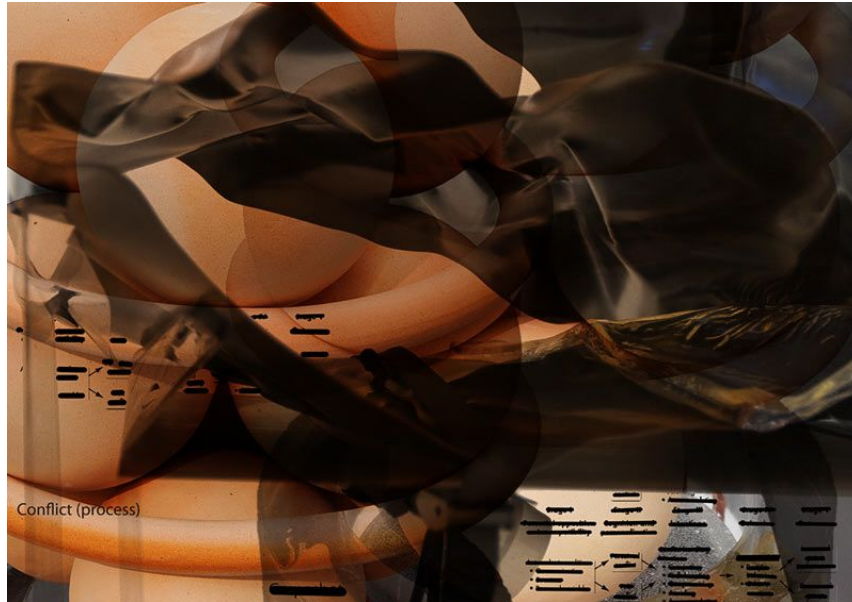
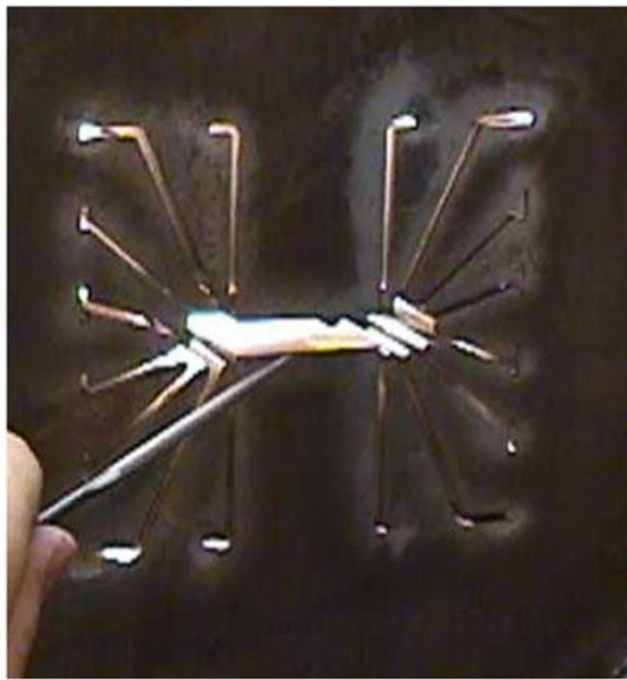


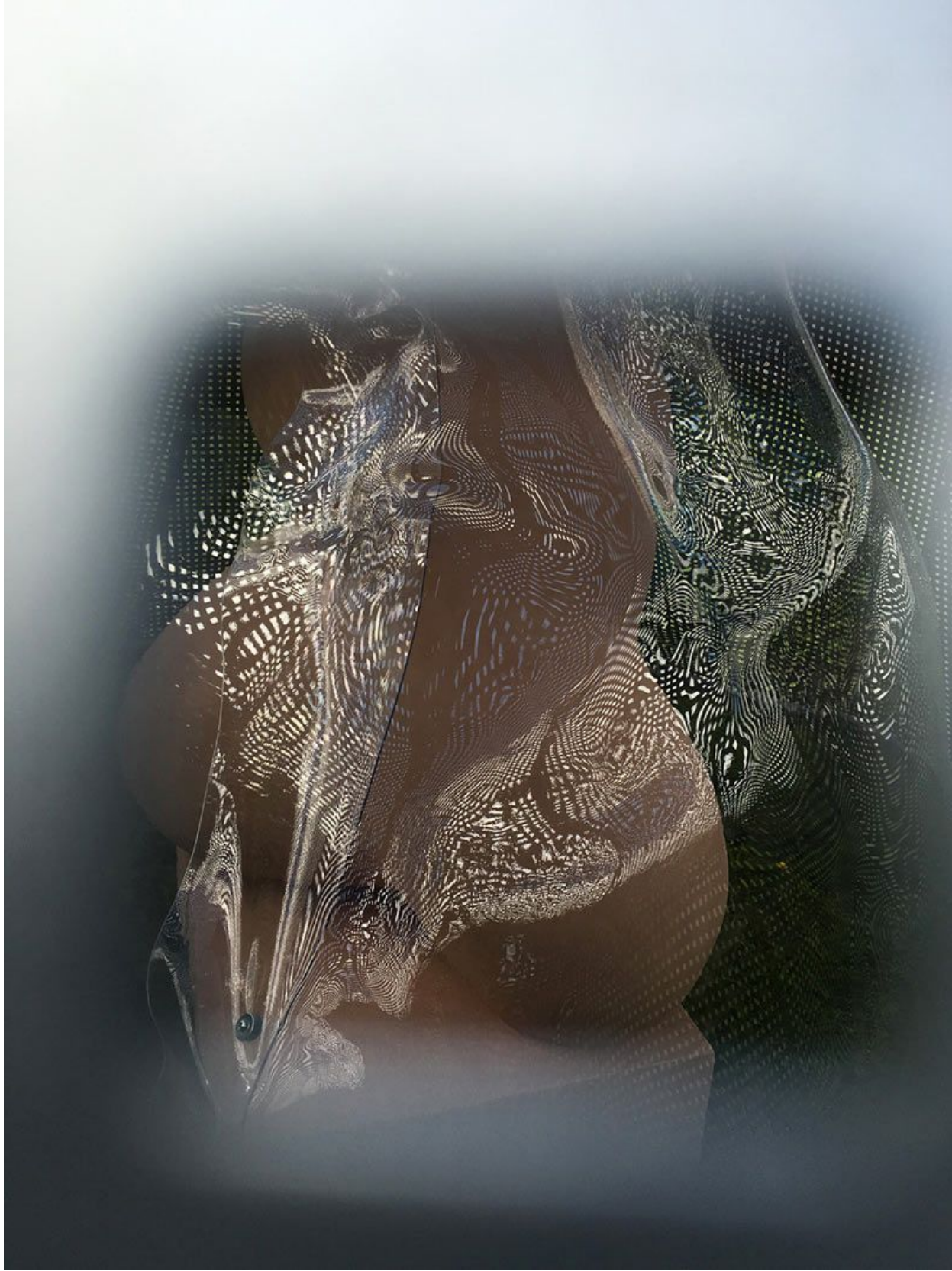
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Portfolio by Alisa Baremboym

March 20, 2017

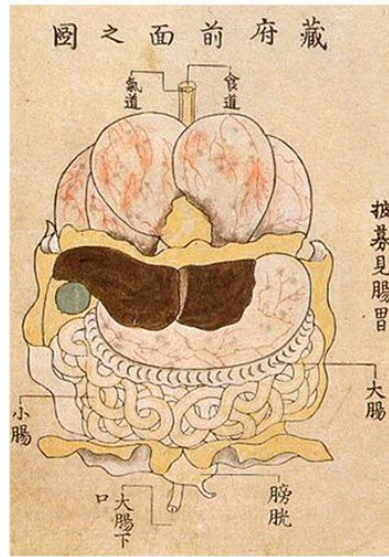










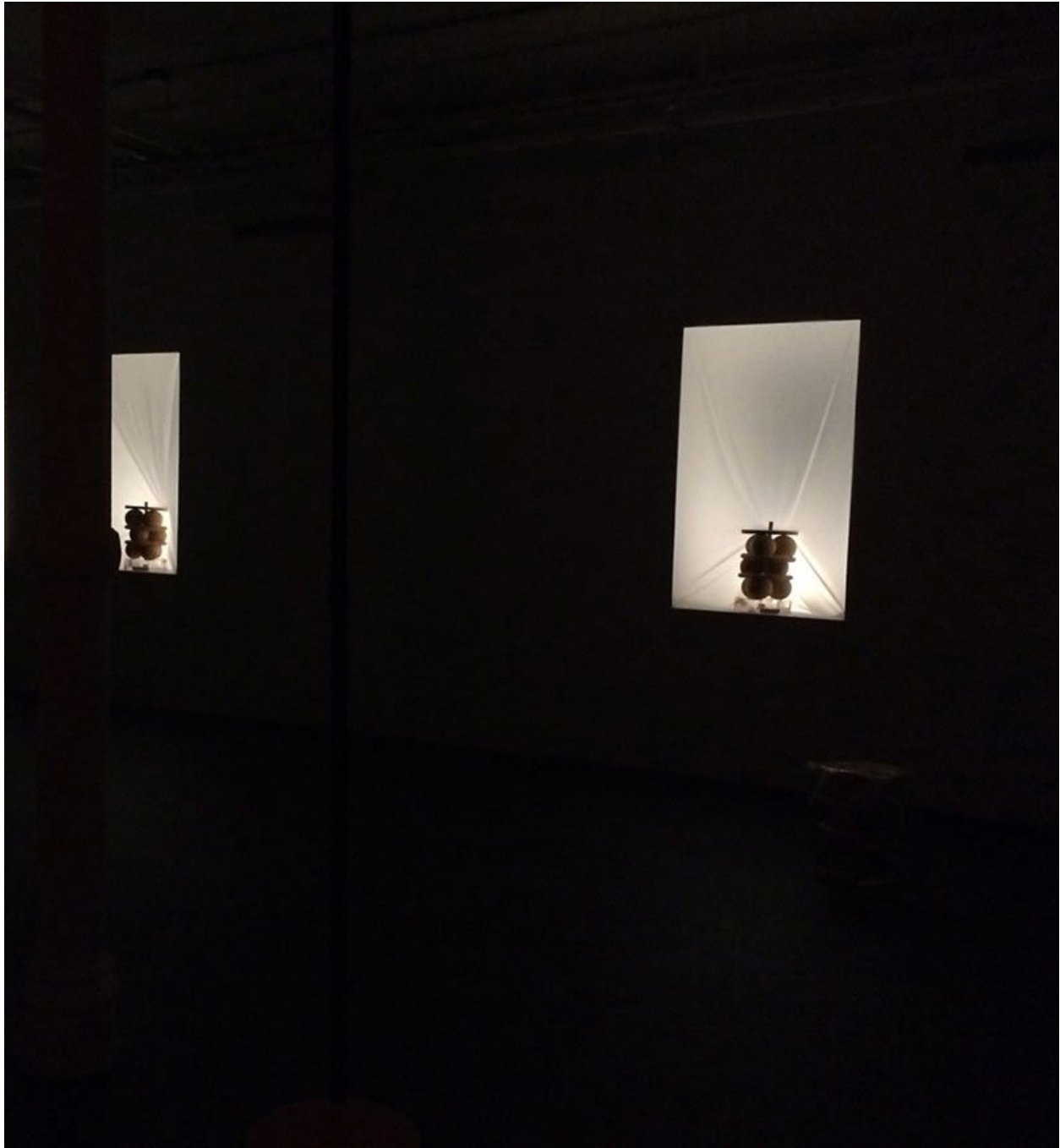












change that, and has discovered a new approach to hydrogels that yielded a trifecta of increased mechanical strength, easy preparation, and possible green-tech implications.

Hydrogels, as the name should imply, are mostly water (as much as 99 percent), and have a consistency that is best described as—you guessed it—a gel. This makes them a great candidate for novel biomedical applications like time-released targeted drug delivery and artificial tissues, because we're mostly water, too. However, this makes them less useful for pretty much everything else outside of the body. They are often vulnerable to solvents and, as you might have noticed, there aren't many items that actively rely on Jell-O as a structural component.

The researchers turned what might be a problem into a solution. The large, branchy dendritic polymer macromolecule they were working with had a tendency to adhere quite strongly to glass. So the researchers investigated its interactions with clay, which shares some properties with glass. Using an additional chemical that disperses clay nanosheets in water, they were able to get their dendritic macromolecule to form a structural framework with the the clay. The hydrophilic portion of the framework attracts and retains water molecules.

This notably improved mechanical properties over other hydrogels, as it could be molded into shapes that are free-standing and relatively robust and would undergo self-healing when cut. Less than 0.4 percent of it is petroleum-derived, so improved versions may provide an appealing green alternative to polymers. The best aspect, however, may be its simplicity: all you need are three ingredients, a beaker of water, and something to stir with.

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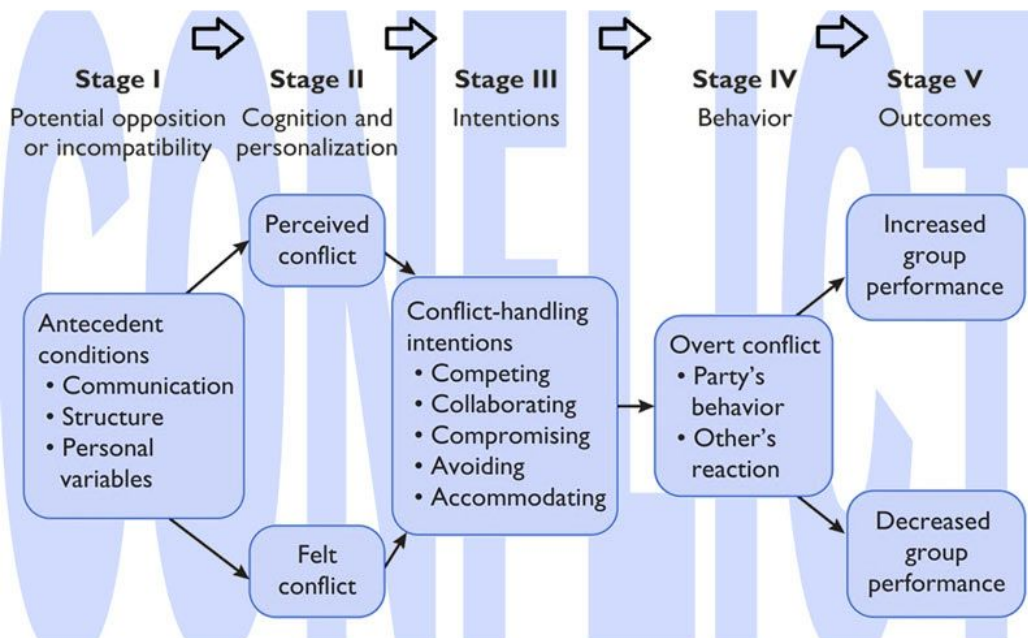
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Alisa Baremboym's recent solo and two-person exhibitions include *You be Frank, and I'll be Earnest*, Glasgow Sculpture Studios (2016); *Conflict (process)*, 47 Canal, New York (2015); *shape sweat: detox vision*, The Vanity, Los Angeles (2013); and *Abundant Delicacy*, 47 Canal, New York (2012). Recent group exhibitions include the 2016 Liverpool Biennial; the 2014 Taipei Biennial; *THEM*, Schinkel Pavillon, Berlin (2015); *That Obscure Object of Desire*, Luxembourg and Dayan, New York (2014); *Speculations on Anonymous Materials*, Fridericianum, Kassel, (2013); *A Disagreeable Object*, Sculpture Center, New York (2012); and *Probio*, MoMA PS1, New York (2013). Baremboym will be presenting a public sculpture on the High Line in New York in the spring of 2017. She lives and works in New York City and is represented by 47 Canal, New York.