Table 1

Cluster Number	Highest AUs at mean	Highest AUs at frame closest to mean	Mixing Coefficient	My prediction of expression in frame	Determined Expression	Reasoning
Cluster 0	7: Lid Tightener, 17: Chin Raiser, 12: Lip Corner Puller, 6: Cheek Raiser	7: Lid Tightener, 12: Lip Corner Puller, 6: Cheek Rasier, 26: Jaw Drop	0.86	Surprise	Joy/Laughter	Not enough AUs to determine surprise [1,2,5,26], but has Joy AUs 6+12. Might not be happy, becuase Pheobe has happier faces, and 17 could be thrown out because Pheobe has a prominant chin that might skew results
Cluster 1	17: Chine Raiser, 26: Jaw Drop, 4: Brow lowerer, 10: Upper lip raiser, 14: Dimpler	14: Dimpler, 17: Chin Raiser,	1.00	Embarassed	Neutral/Embarassed	Values are low, and sire for selected frame does deviate a bit from the mean. This expression does not have many activated AUs, none being over a value of 1. If we had gaze information (used in all features_multiperson) I would Hypothesize this expression would be concidered embarassed.
Cluster 2	4: Brow Lowerer, 17: Chin Raiser, 10: Upper Lip Raiser, 7: Lid Tightener	10: Upper Lip Raiser, 17: Chin Raiser, 4: Brow Lowerer	0.70	Sad	Sad	Sad has AUs 1+4+15. The expression in frame looks sad, but sire graph for selected frame doesnt show high responses of 1 and 15 Aus. In the mean sire graph, 1+15 AUs are somewhat noticed by the AI. So this expression is determined to be sad.
Cluster 3	25: Lips part, 26: Jaw Drop, 4: Brow Lowerer, 10: Upper lip raiser, 7: Lid Tightener	26: Jaw Drop, 7: Lid TIghtener, 6: Cheek Raiser, 25: Lips part	0.68	Happy	Happy/Bashful	Happy, like joy, has AUs 6+12. The mean sire, and selected frame sires both show some activation of 6+12, but are overshadowed by 25,26,7 and others. These AUs could suppliment Pheobes happiness however. 25, 26 are activated by a wide mouth, which happens when people smile. And 7 might be activated in the same manor.
Cluster 4	12: Lip Corner Puller, 6: Cheek Raiser, 14: Dimpler, 10: Upper Lip Raiser, 7: Lid Tightener	12: Lip Corner Puller, 6: Cheek Raiser, 14: Dimpler, 10: Upper Lip Raiser, 7: Lid Tightener, 26: Jaw Drop	1.00	Disgust	Disgust	Looking at the frame, and watching the video in 36.mp4, this expression is obviously disgust, however none of the AUs seem to support this. Disgust is 9+15+16. It could be argued that 10 is very similar to 9, and found in both sire graphs. 16 is not detected by OpenFace, but found visually in the frame. It could be determined that this exact combination of AUs could correspand to disgust uniquely in Pheobe. High intensity values here might show high activation. Negative activation in this case
Cluster 5	26: jaw drop, 17: chin raiser, 12: lip corner puller, 10: Upper Lip Raiser, 5: Upper Lid Raiser	26: Jaw Drop, 17: chin raiser, 25: Lips part, 4: Brow lowerer, 12: Lip Corner Puller, 1: Inner brow raiser	1.00	Neutral	Neutral/annoyed	This frame is strange. The most intense AU in the frame is 26: Jaw drop, however that is not what she is doing. Jaw drop AU might be activated when she is talking, and not other AUs are very intense. I might call this expression neutral. She does look a little annoyed, which might be a subset of frustration, steming from anger. Anger has AUs 4+5+7+23, and 4&5 were found in Sire graph
Cluster 6	26: jaw drop, 25: Lips Part, 17: chin raiser, 12: Lip Corner Puller, 4: Brow Lowerer	26: jaw drop, 25: Lips Part, 17: chin raiser, 12: Lip Corner Puller, 4: Brow Lowerer	0.99	Contempt	Surprise/Sad	All AU intensities under 1.0, making me think the expression is neutral. But like other expressions classified, Pheobe could be displaying a mixture of emotions. Sometimes Subtle mixed emotions, like surprise, and sad. Sad has 1+4+15 AUs, and surprise has 1+2+5+26 AUs. 4 and 26 AUs are sublte in SIRE, so this expression could be surprise/sad
Cluster 7	12: Lip Corner Puller, 6: Cheek Raiser, 10 : Upper Lip Raiser, 7: Lid Tightener, 4: Brow lowerer	12: Lip Corner Puller, 6: Cheek Raiser, 10 : Upper Lip Raiser, 7: Lid Tightener, 4: Brow lowerer		happy	Happy, low activation	There have been many instances of 12+6, which is happiness. Needless to say, pheobe is a happy person. I would concider the intensities of these values to be lower than others, so I coul classifiy this expression as a low activation happiness.
Cluster 8	17: chin raiser, 10: Upper Lip Raiser, 4: Brow lowerer, 26: Jaw drop, 12: Lip corner puller	17: chin raiser, 10: Upper Lip Raiser, 4: Brow lowerer, 26: Jaw drop, 12: Lip corner puller		fear	sadness/fear/anxious	Looking mostly visibly in the frame, Phoebe looks to be sad, but also with a mixture of fear. I believe both of these emotions could be linked to an anxious state.