This is a section-by-section list of all the major results, with their dependencies. Throughout: track down specific refs, ie Theorem 2.7 in [3], not just [3]

1. Introduction

Nothing to say here, I think.

2. Action operads

Definition. symmetric operad
Definition. non-symmetric operad
Definition. braided operad
Definition. operad map
Definition. action operad
Definition. map of action operads
Definition/Example. ribbon braids, and their (action) operad
Result (1). π is a map of operads. Dependency: defs
Result (2). Operads internal to groups are action operads. Dependency: (1)
Result (3). The kernel of an action operad is an action operad. Dependency: (1,2)
Result (4). The image, in Σ of an action operad is an action operad. Dependency: (1)
Result (5). A kernel/image short exact sequence. Dependency: (3,4)
Result (6). Some calculations with $e_i's$. Dependency: defs
Result (7). Some calculations with $\Lambda(0)$. Dependency: (6)
Result (8). The big β, δ theorem. Dependency: (1)
Result (9). π is zero or surjective. Dependency: (8)
Examples. Cyclic, reflexive, hyperoctahedral, alternating. Dependency: (8)
Definition. lfp stuff
Result (10). The category of action operads is lfp. Dependency: defs, external
Result (11). $U : \mathbf{AOp} \to \mathbf{Sets}/\mathcal{S}$ preserves limits and filtered colimits. Dependency: defs Note: seriously check proof
Result (12). $F : \mathbf{Sets}/\mathcal{S} \to \mathbf{AOp}$ left adjoint to U. Dependency: external
Definition. presentations for action operads Dependency: (12)

3. Operads with equivariance

Definition. Λ-operad
Definition. map of Λ-operads
Definition. category of Λ-operads
Result (13). Λ is a Λ-operad. Dependency: defs
Definition. algebra over a non-symmetric operad Note: delete?
Definition. algebra over a Λ-operad
Definition. category of algebras over a Λ-operad
Result (14). Endomorphism operad is a Λ-operad. Dependency: defs Note: should have independent endomorphism operad def beforehand, maybe rework all this stuff
Result (15). Change-of-operad functor. Dependency: defs
Result (16). Algebras are operad maps into endomorphisms operad. Dependency: (14)
Definition. monad associated to a Λ-operad
Result (17). Monad algebra category is operad algebra category. Dependency: defs
Result (18). Λ-algebras, as a Λ-operad, are monoids. Dependency: defs, maybe (16) Note: unclear hypotheses, should say in sets I think
Result (19). Three-part theorem about the adjunction between Λ- and Σ-operads and their categories of

algebras. Dependency: defs Note: check proof
Definition. monad mapNote: some text after that needs to be in an environment
Definition. cocomplete SMC Note: no emph in def, is wrong
Result (19). Lax symmetric monoidal functors transport operads, with a comparison monad map. Dependency: FUTURE! Note: eep in general! where did we define the tensor product over a group notation?
Result (20). Operad maps induce monad maps. Dependency: stuff that isn't in an environment above Note: continued eep
Result (21). Combining to get an adjunction. Dependency: (19, 20) Note: continued eep
Definition. collections, maps, the category thereof
Definition. substitution product of collections
Result (22). Substitution product gives monoidal structure, and monoids are operads. Dependency: (19, 20)
Result (23). $B\Lambda$ is a strict monoidal category. Dependency: FUTURE! also (6)
Result (24). n-fold Day convolution is a functor $B\Lambda \to \mathbf{Sets}$. Dependency: (23)
Result (25). Substitution product as coend using Day convolution. Dependency: ?? Note: seriously check proof
Proof of (22). Dependency: (23,24,25) Note: seriously check proof

4. Operads in the category of categories

Note: worth revisiting introductory material, maybe some of it needs environments
Definition. pseudoalgebras
Definition. strict algebras Dependency: previous defn
Definition. pseudomorphisms
Definition. strict morphisms Dependency: previous defn
Definition. algebra transformations
Definition. P-alg, strict and strong
Definition. 2-monads versions of the above
Result (26). 2-monad and operad algebra 2-categories agree, strict and strong. Dependency: definitions here
Result (27). 2-monad from an operad is finitary. Dependency: definitions here Note: check proof
Result (28). 2-monad from an operad preserves bijective-on-objects funtors. Dependency: definitions here
Result (29). Pseudoalgebras equivalent to strict ones. Dependency: definitions here Note: worth explaining how this strictifies unbiased monoidal categories to strict ones, but not biased ones
Definition. 2-cartesian 2-monad Note: we seem to need some definitions here
Result (30). Coequalizer of actions is sometimes the quotient. Dependency: noneNote: this looks like it could be improved, many aspects unclear
Result (31). Unit for $\underline{P}$ is cartesian for any symmetric operad P. Dependency: definitions here
Result (32). The 2-monad $\underline{P}$ preserves pullbacks iff group action is free. Dependency: (30)
Result (33). Multiplication for $\underline{P}$ is cartesian if all group actions are free. Dependency: (30) Note: has some suspect proof-by-example looking text
Result (34). $\underline{P}$ is 2-cartesian if and only if all group actions are free (symmetric case). Dependency: (31, 32, 33; 30)
Result (35). $\underline{P}$ is 2-cartesian if and only if all group actions are free (symmetric case). Dependency: (31, 32, 33; 30)
Result (36). Lemma about free Σ-actions on categories with Λ-action. Dependency: defns Note: needs to be fixed up a bit in the whole groups actions on categories rework
Result (37). $\underline{P}$ is 2-cartesian if and only if all group actions are free (Λ case). Dependency: (35, 36; 30, 31, 32, 33, 34)

5. The Borel construction for action operads

Definition. EG, BG
Definition. isofibration
Result (38). $p : EU \Rightarrow B$ pointwise isofibration. Dependency: definitions here Note: needs ref
Result (39). E right adjoint to set of objects functor, symmetric monoidal wrt cartesian products. Dependency: definitions here
Definition. the category $B\Lambda$ Note: this was used back in (23)
Result (40). Lax symmetric monoidal functors induce functors between categories of Λ-operads Dependency: (22; 23, 24, 25)
Result (41). $E\Lambda$ is an action operad. Dependency: (13, 39, 40; 22, 23, 24, 25)
Definition. Λ-monoidal categories
Result (42). Formula for morphisms in $E\Lambda(n) \times_{\Lambda(n)} X^n$. Dependency: (30?)
Result (43). $\underline{E\Lambda}$ is finitary and 2-cartesian. Dependency: (30?) Note: currently just in free text
Delete Λ_∞ stuff??
Definition. cartesian monad, collections for those, and operads for those. Note: should unify with the 2-cartesian definitions??
Definition. clubs
I think the free text explicitly breaking down the definition of a club has some errors, double check
Result (44). $B\Lambda$ is a club. Dependency: defs here, (30, 42, 43)
Result (45). Characterization of which clubs are action operads. Dependency: defs here, (8)
Result (46). Presentations of clubs, for action operads. Dependency: defs here, external?
Result (47). Presentations of strict monoidal structures arising from action operads, via clubs. Dependency: (46)
I think this is where NG puts the presentation for strict symmetric monoidal cats

6. Monoidal structures and multicategories

Lots of examples here, unify them; should go in a section with presentation stuff
Definition. coboundary category
Definition. coboundary functors
Definition. 2-category of coboundary stuff
Result (48). Strictification of coboundary cats. Dependency: defs here
Definition. stuff to define operad: disjoint, contains, $s_{p,q}$'s, J_n's
Result (49). Action operad structure on J's. Dependency: (8), defs here Note: issue in proof
Conflict: C vs J notation; I understand now - C is the monad, J's give the club
Result (50). The 2-monad C for strict coboundary cats is a club. Dependency: (47)
Result (51). $C1 \cong BJ$. Dependency: (49)
Result (52). $C \cong \underline{EJ}$. Dependency: (45, 50,51)
Definition. strength stuff Note: change to left/right
Definition. pseudo-commutative 2-monad
AC should redo all our straight line string diagrams to look pretty like his curvy, colored one
Definition. pseudo-commutative operad
Result (53). Pseudo-commutative operads give pseudo-commutative 2-monads. Dependency: defs here
Result (54). Non-symmetric operads never give pseudo-commutative 2-monads. Dependency: defs here Note: last sentence of proof should probably be tightened up
Definition. symmetric pseudo-commutative 2-monad
Result (55). From operad to symmetric p-c 2-monad. Dependency: (53)
Definition. contractible operad
Result (56). P contractible and has t's, then p-c. Dependency: (53, 55)

Result (57). Contractible symmetric operads have symm p-c. Dependency: (56; 53, 55)
Remark about symmetrization not preserving contractibility doesn't read well
Result (58). The 2-monad for strict braided monoidal cats has two non-symmetric p-c structures.
Result (59). The 2-monad for strict braided monoidal cats is $\underline{\underline{EB}}$. Dependency: external
Definition. positive braids
Definition. minimal braids Note: combine defs?
Result (60). Bijection between positive minimal braids and permutations. Dependency: external
Proof of (58). Dependency: defs here, (53 ,60) Note: seriously check proof